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ORIGINAL ARTICLES.

THE ECONOMIC VALUE OF MEDICAL SCIENCE.*

BY W. GILMAN THOMPSON, M.D.,

OF NEW YORK;

PROFESSOR OF MEDICINE IN THE CORNELL UNIVERSITY MEDICAL COLLEGE IN NEW YORK CITY.

UPON this the occasion of the fifty-sixth anniversary of its foundation, the New York Academy of Medicine has every reason for congratulation upon its material success and for just pride in the honored position which it has won among the highest public institutions of the city. Comfortably housed in a well-appointed home, it has gathered in its library the medical lore of every country and every age, a collection widely famous for completeness, as it is for admirable arrangement and convenience of access. In its rooms may be met the expounders of the best medical thought of the day, and generous alike to members and non-members, the Academy extends its privileges to other societies and welcomes the stranger within its gates. Such a truly democratic institution, always free from the domination of any particular sect, vigorous, self-supporting, accessible alike to young and old in the profession, and as eager to work for the service of the community as to benefit its own members, cannot fail to command a high degree of public respect and confidence. It is this ever-broadening relationship of medical science to large public interests which forms the theme of discourse this evening, with special reference to "The Economic Value of Medical Science."

Unquestionably the most far-reaching economic benefit derived in recent years from medical science lies in the fact that the public are being taught not to flee from epidemics and pandemics, but remain to intelligently combat them. The wild stampede of whole communities, the shot-gun quarantine with all its horrors, the utter paralyzation of all commercial interests in the face of an epidemic threatening from a foreign shore, are conditions forever past and replaced by measures so mild in contrast that they would be almost ludicrous in their simplicity, were they not so powerful in their effects. Thus, in many instances, instead of indefinitely quarantining the patient and destroying all his personal property, we quarantine the mosquito, destroy the rat, or boil the water in which we have learned to recognize the source of danger.

During the 100 years from 1798 to 1898 more than 80,000 deaths from yellow fever were reported in this country. J. F. Rhodes, in his "History of the United States" (Vol. IV) writes that as late as 1853 the mortality from yellow fever in the localities in which it prevailed, rivaled that of the Great Plague in London. In New Orleans, in an epidemic which lasted for three months: "It was impossible to bury the dead. Men went about in carts knocking at every door, and crying out, 'Who have dead to bury?' "—How inconceivable such a condition appears today, after a period of only fifty years! At a still earlier time such epidemics prevailed as far north as Philadelphia and New York. John Bach McMaster writes in his "History of the People of the United States" (Vol. I, pp. 30, 31): "Every few years during the dog-days the yellow fever raged with more violence in the Northern cities than it has ever done in this generation in the cities of the Far South. Whole streets were depopulated. Every night the dead-cart shot its scores of corpses into the pits of the Potter's field."

The mode of propagation of the bubonic plague is now understood and in India it is claimed that the use of Haffkine's serum reduces the susceptibility among those exposed to this infection 75 per cent., and the mortality of those attacked is reduced by 90 per cent. The cases of plague which reached Glasgow in 1900 were so successfully dealt with that the advent of a disease which formerly would have completely inhibited the commerce of a great port, produced no more than passing mention in the public press; and the few cases which have appeared in San Francisco and the quarantine station of New York in recent years have created no undue alarm. It is a hope, fully capable of realization, that soon the plague may be confined permanently to its home in the valley of the Euphrates, as cholera bids fair to be restricted to the valley of the Ganges, and even there these scourges may yet be vanquished, if they can be deprived of their only allies, ignorance and prejudice. Typhus fever and leprosy have been practically exterminated from many countries which were formerly ravaged by them in disastrous epidemics. Malaria is now to be reckoned as a preventable disease, capable in time of extermination from any community. It is easy to estimate the cost of this disease in a given locality and demonstrate the financial saving which would accrue from its extinction. Ricchi ("Malaria According to New Researches") states that the Adriatic Railroad Company, employing more than 6,000 men, loses over 1,000,000 francs a year from incapacity of its laborers caused by malaria. Angelo Celli (in "Malaria According to the New Researches") estimates the mean annual mortality in Italy from malaria at 15,000. There are besides 2,000,000 cases of the disease per annum, and 5,000,000 acres of land are rendered unfit for cultivation through this scourge.

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Local epidemics of infectious disease, as well as infant mortality, are being markedly lowered wherever medical science has been intelligently applied and the mortality in large cities throughout the world is undergoing constant reduction. In New York City, for example, a century ago the annual death-rate was fully 30, and probably much higher, if allowance be made for the imperfect statistical records of the period. To-day it has been reduced below 18.5, despite the conditions of overcrowding and pauper immigration which characterize the modern development of the city. In the early days of the past century a large proportion of persons above twenty years of age were deeply pitted by smallpox, yet how rarely one meets a face so disfigured to-day!

Interesting computations have been made regarding the financial cost to the community of tuberculosis. Among such calculations is one published in a recent circular of the Imperial German Health Bureau, which is as follows: About 90,000 persons between fifteen and sixty years of age die yearly from tuberculosis in Germany. Suppose that one-tenth of such persons could be restored to comparative health through sanatorium treatment, and live three years longer to support their families. Upon the low wage-earning basis of $150 per patient per annum, after deducting the cost of maintenance of public sanatoria, it is estimated that the net gain to the State would amount to $2,000,000. As a purely business proposition, such a tuberculosis "trust" might prove as profitable as other life insurance enterprises. Even without such Utopian governmental aid, medical science is quietly working for the same economic end, and, to use a single illustration, within the past decade in the State of Massachusetts alone, the mortality from tuberculosis has been reduced by exactly one-half.

Typhoid fever and epidemic dysentery are now known to be completely preventable, and it is no fault of the science of medicine if the public does not always adopt the simple measures which would result in such an economic gain.

In Calmette's antivenene is another illustration of a medical discovery which may prove of great economic worth. In India 22,000 persons die annually, and 60,000 cattle die from bites of the poisonous ophidia. Many such deaths might be now preventable by prompt inoculation with antivenene.

Not least among the important aspects of medical science is the amount of capital invested in buildings and appliances for its pursuit and application, an amount exceeding that of any other pure science. Thus, in the medical and pharmaceutical colleges, research laboratories, health department bureaus, hospitals, asylums and training schools of this country alone several hundred million dollars are permanently invested in buildings, land and equipment, and scores of millions more are to be reckoned in endowment funds. At the present time the 125 "regular" medical schools of this country possess property valued above $18,000,000 and endowment funds exceeding $8,000,000. It is interesting to note that the schools of theology, while possessing property of nearly equal value with those of medicine, enjoy five times the endowment funds. The schools of law, requiring much less elaborate equipment, represent an investment of $1,500,000 in property and $500,000 in endowment funds.

To the value of medical college property may fairly be added that of the colleges of pharmacy, amounting to three-quarters of a million more in buildings and nearly $20,000 in endowment. The value of the 433 hospitals alone which maintain nurses' training schools exceeds $73,000,000 and their endowment exceeds $18,000,000. These figures represent probably less than one-fourth of the total hospital wealth, for many of the lesser hospitals are without training schools.

In the United States the 29 schools for the feeble-minded represent a property valuation of more than three and one-half millions. The 114 schools for the deaf own over $12,000,000, and the 37 schools for the blind $6,250,000 worth of property. These are all institutions which owe their origin largely to the development of medical science and which are, for the greater part, operated under constant medical surveillance and advice. I have not cited figures for the valuation of asylums for the insane and many special institutions, such as "diet kitchens," "fresh-air" institutions, convalescent houses, etc., which have derived their initiation from medical science, but have quoted data sufficient to demonstrate that three or four hundred million dollars is a conservative estimate for the vast property interests which, in this country alone, have grown up mainly during the past two generations from the co-operation of medical knowledge with humanitarian aims. How great is the need that these interests be fostered and expanded under intelligent guidance of the highest scientific order!

Turning to a more strictly mercenary, yet no less important resultant of medical progress, there should be added to the account the millions invested in the exclusively medical products, *i.e.*, the manufacture of antiseptics, disinfectants and legitimate pharmaceutical preparations, in surgical instruments, dressings and appliances, and instruments of precision. Collectively this enterprise, of quite recent development, constitutes a commercial factor of no mean proportions.

One of the great economic achievements of modern medicine, consists of the scientific study of the more or less helpless members of the community, the blind, deaf-mute and crippled, with a view to improving their condition and rendering them less of a burden to the tax-payer or the State. In 1817 the first school for deaf-mutes was opened in this country with 12 pupils. In 1900 there were 114 schools with 10,000 pupils. Recently the American Otological Association has assumed the systematic examination of all such pupils in the United States with already gratifying results

The munificent gift of Mr. Widener of

$2,000,000 for the establishment of a school in Philadelphia for the care and training in self-support of cripples has already led, in the eight years since its foundation, to the organization of similar schools in five other cities. It would be manifestly unfair to attribute the origin of such enterprises as these, exclusively to the influence of medical science in distinction from purely humanitarian motives, but without medical supervision they would be imperfect and incomplete.

The achievements of psychological physiology and pathology have not only produced a revolution in the science of psychology, but have accomplished many practical results in criminology and the treatment of the insane. For example, there is a marked tendency to make penal institutions less exclusively punitive and more instructive for the inmates. The solitary dungeon of medieval horrors has given place to penal institutions in which in many instances, there is attempt at rational classification of the inmates, and the influences of heredity, of environment and disease, are given their true weight. The health of prisoners is better cared for, and it is recognized that infection by tuberculosis should not be an inevitable outcome of protracted confinement.

Similarly in the care of the insane, the hopeless mad-house of old has, through medical enlightenment been replaced by well-ordered public institutions in which patients are not merely confined but are *treated*, with gratifying amelioration or cure of symptoms in not a few instances. It has been demonstrated that in nearly 90 per cent. of the insane the mind has become affected through errors of the body of the nature of chronic disease, alcoholism, or privation, errors which are often capable of early recognition and control.

In the department of hygiene and sanitation, medical science has newly established a wide field of industry. The public has been quick to adopt suggestions in this direction wherever they could be applied to profitable manufacture, but judging from the nature of the magnified advertisements which eclipse our landscapes, this phase of the matter is somewhat overdone. We are in less urgent need of patent "hygienic hair-brushes" than of intelligent methods of garbage disposal, less in need perhaps of patent foods than of proper policing our municipal water supplies throughout the country. Doubtless any genuine efforts toward improved hygiene are commendable, but it has long been the practice of mankind to prefer nostrums to cleanliness. The farmer still continues to drain the contents of barnyard and latrine into the household well, and then buy proprietary "tonics" for his ailing wife and children. But he will yet learn to mend his sanitary ways, as he is learning to mend his roads.

For the more serious problems of public hygiene and sanitation medical science is amply prepared to furnish definite, accurate rules which are completely practical and efficient, rules which cover every department—the hygiene of the person, of the home, of the school, municipal, rural, state, national, industrial hygiene, the hygiene of transportation, military and naval hygiene, and the hygiene of soils and climates.

It has been lately shown, especially in this city, that the place to check the spread of many infectious diseases is at the entrance to the public schools, and the prophylaxis of much anemia and nervous disease among school children is to be found in instructing their teachers in proper methods of heating, lighting and ventilating the school-room as well as in conditions of mental hygiene which will prevent strain, overwork and nervous collapse. Whether it be deemed wise or not to instruct the children themselves in rudimentary physiology and hygiene, their teachers should be masters of those subjects. By the impetus which medical science has given to these matters, the community may be not only spared many days of actual illness, but will find fewer weaklings among the rising generation of its citizens. In the hygiene problems of our large cities, we have much to learn and much to apply from the teachings of medical science. Medical science, the teacher, is ready, but the pupil, the public, is always late at school, if not an actual truant. In such case the more the economic, *i.e.*, the purely mercenary aspect of the situation can be emphasized, the more likely are many medical sanitary reforms to secure public adoption. Much has been accomplished, but still more remains, if we are to take the lead in matters hygienic and sanitary. For example, who shall say how our miles of subways are to be ventilated, for we have become a city of *boroughs* in more senses than one. Carbonic acid and other noxious vapors are heavier than air; how shall they be driven out and who wishes to live at the point where they are expelled? Why do we continually ride in public conveyances alternately closed to all needful ventilation or open to a raking end-to-end draught of ten miles an hour and crowded to the verge of indecency and physical injury? What is to be our sky-scraping future? To the vehicular perils of the street are added those of veritable tornadoes on windy days, and a sand-storm in the desert is not more dreaded than to face one of our antiquated uncovered ash-carts at such a time! The modern practice of building over almost the entire area of the lot makes it increasingly difficult to obtain sufficient sunlight and air for hygienic needs, especially for children, and in fact it is becoming more and more difficult for the well-to-do, whose children may not be turned loose in the streets, to furnish them with adequate exercise and fresh air, and maintain them in health throughout a winter's study. The atmosphere of hurry and tension which surrounds us all is difficult to dissociate oneself from and in many persons is productive of serious nervous strain. Such are but a few of the many local health problems which are the outcome of the increasing tendency to crowd into great cities, problems which were unimagined in the simpler life of our forefathers.

In the broader field of state, interstate and na-

tional quarantine there is also much to be accomplished. Both agriculture and commerce have preceded medical science in the establishment of national government departments with representation in the cabinet of the nation, but no earnest student of economics can fail to appreciate the value to the country—the purely commercial value, aside from the humanitarian—of giving to medical science the influence and force of that national authority in which the United States is still behind other nations.

No single municipality should be permitted to attempt the concealment, for its own unguided profit, of a pest-hole of a plague like the bubonic, as has lately been done in San Francisco. No State should be allowed to pollute with typhoid infection the waters of a stream flowing into an adjoining State, as occurred in the relationship between Pennsylvania and New York in the epidemic of Elmira. No town should be permitted to pour its typhoid-laden sewage, or, in fact, any sewage into inland lakes and streams, in selfish, nay criminal, disregard of its neighbors, as Ithaca has polluted the waters of Cayuga Lake. No town should be permitted to harbor a focus of smallpox infection through ignorance, or neglect of vaccination. With a National Department of Medical Science, endowed with reasonable and just authority, not only would such deplorable conditions soon cease but the other extreme of arbitrary, senseless quarantine, such as that lately proposed in the California Legislature against tuberculosis, would become equally impossible. Quarantine, both littoral and interstate, in so far as it might be needed at all, would be placed upon a rational basis of uniformity, and the commercial or economic gain would be incalculable.

One of the first duties of physicians should be to secure the establishment of local health boards wherever needed. They should insist that those who serve upon such boards should be men of scientific training, capacity and force, and finally, wherever such boards are in operation they should give them all the moral support and co-operation possible. By a system of prompt notification on the part of each practising physician and prompt response and ready distribution of statistical data on the part of the board, the confidence of the public will be won and its willingness to adopt sanitary reforms will be greatly promoted.

Another phase of this discussion is that of military hygiene and sanitation. It has been long recognized that in all protracted campaigns more men die from disease than from the implements of warfare. In active engagements this is to a great extent inevitable as a result of exposure to fatigue and hardship. One cannot profitably go to war in the tropics with a kerosene can and a bit of mosquito netting, as the Chinese do with a fan and paper umbrella, but in camp-life epidemics at least, are preventable. In 1897 (the year before the Spanish-American War), the Spaniards lost by death from disease in Cuba 32,532 men and 30,000 more were invalided home. A large majority of these deaths were due to yellow fever, typhoid fever, malaria and dysentery, all now known to be preventable diseases, and our marines at Guantanamo in the same country *did* prevent their occurrence absolutely the following year by simple sanitary precautions. The mortality from disease in early campaigns has been truly horrible. For example, in that of the English on the West African Coast in 1824 it was 69 per cent. of all men engaged; in that of the French in the Soudan in 1883-86 it was 28 per cent., yet in our own war with Spain it was only 2.5 per cent. and in Manila alone, 0.8 per cent. The disease mortality in the Crimea in 1854 was 23 per cent., but in the Franco-Prussian war in 1870-71 it was only 1.43 per cent. (Mosher). Of even greater importance to warfare than a low disease death rate, is the maintenance of a high standard of health efficiency among the men employed, and governments are realizing that the practical applications of medical science are as essential as proficiency in fighting. In the American Civil War the percentage of sick of the entire army was 20; in our last war in 1898 it was only 3.5. Even when due allowance is made for the different duration of these wars and the widely different conditions under which they were waged, the improvement in the general health of the men is very noteworthy.

The economic record of medical science in naval warfare is still more striking. In 1726 the British fleet in the West Indies, out of a mean strength of fighting force of 4,750 men, lost 4,000 from disease—a practical extermination of the force. In contrast is the report of the Surgeon-General of the United States Navy, covering the period of our war with Spain in the same tropical region, which shows better average health prevailing among the men than in times of peace. No small part of this contrast is due to the complete abolition of scurvy at sea which has, in former years, proved so disastrous to navies, the merchant marine and Arctic exploring expeditions. This one triumph of medical science alone has saved to the world's commerce and navies more than could be easily made comprehensible in figures. The influence of medical science upon allied sciences has been very great within the past two or three decades. Veterinary practice should properly be included under the broader interpretation of the term "Medical Science," and its achievements are producing enormous financial saving to the country through the control of such epidemic diseases among domestic animals as tuberculosis, the foot-and-mouth disease, glanders, hog cholera, and a long list of parasitic diseases like trichinosis, etc., which become a menace to man by attacking animals used for food.

It is not generally appreciated that medical science is producing a revolution in applied botany and agriculture. Arising from the discoveries of Pasteur and those who have made the germ theory practicable in methods of antisepsis and artificial immunity, has come the demonstra-

tion that many plants are dependent upon micro-organisms for their existence, organisms which within the soil associate themselves with the plant rootlets and by fermentation and other processes, actually predigest certain plant foods or prepare them for absorption. The question of sterility of a soil is no longer regarded in an exclusively chemical sense, but one which is directly comparable to sterility as the term is understood in referring to the micro-organisms of bacteriology. The entire physiology of plant life has been recently developed along parallel lines with animal physiology, and the study of the morphology, pathology and prophylaxis of the parasites of vegetation is closely allied with similar studies of animal parasites. In dairy products too, applied antiseptic cleanliness and antifermentative processes are the outgrowth of the recommendations of physicians who have been long teaching the lesson that cleanliness, health and pecuniary profit are not incompatibles but synergists. The various methods of food preservation by refrigeration, canning, drying, salting, preserving in syrups, sugars, vinegars, etc., although they in some instances antedate the science of bacteriology, are all explainable by it, their efficiency has been much improved by it, and to medical science the use of such products must be ultimately deferred to determine their inocuousness, or the dangers which may arise from their overuse or careless preparation. In other words, bacteriology, primarily and fundamentally a department of medical science, has been expanded through knowledge of it gained in medical research, so that it has developed an economic value in agriculture, animal industry and other large industries, which the imagination can with difficulty fully appreciate.

The science of biology had its origin in that of medicine, and for many centuries, physicians were the only biologists. In recent times many eminent biologists began their careers with medical training.

The science of meteorology has attained such independent distinction that it is almost forgotten that it owes its inception in this country to the methods of careful observation and record acquired in the medical service of the army. In 1816 Surgeon Benjamin Waterhouse, U.S.A., made the first series of meteorological reports under an order from the army headquarters. This work, extended by means of apparatus supplied in 1842 by Surgeon-General Lawson, developed into the establishment of a definite weather bureau in 1854, the observations being first made by army surgeons upon the climate and health in camps upon the frontier.

Medical science has opened a new field of industry for women, not alone in the practice of medicine but in the wide occupation of nursing, in which thousands of women find means of honorable and renumerative livelihood. In this country alone the pupils in the nurses' training-schools number more than 11,000, and the graduates 20,000.

Medicine, similar to other comprehensive sciences, has developed a voluminous literature, and a large financial interest is connected with its exclusive production. In 1774 American medical literature was represented by the total publication to that date of one new book and three reprints. To-day the output in medical sciences in this country is an average of one new book for each working day in the year, besides some 300 journals and 5,000 original journal articles per annum. In the libraries of the medical colleges alone (exclusive of the independent libraries like those of this Academy and the Surgeon-General's office), are 158,464 volumes. The mechanical quality of this work as shown in the art of printing and illustration is of a high order of merit which may favorably be compared with similar efforts connected with any other scientific publications.

It is asserted that medical science has prolonged the average age of mankind by several years during the past generation. Desirable as this achievement may be, it is outweighed by the greater gain in the ability to live while we do live, in healthful surroundings free from dread of plagues and with a foreknowledge of the causes of many preventable diseases. Someone said to me recently, "What is the use of doctors inventing new remedies to cure us, when they are always discovering new diseases to attack us?" This occasional attitude of the lay mind is due merely to a somewhat bewildering nomenclature, which, however, to the initiated is merely an effort at greater accuracy and finer differentiation. The patient who, ten years ago, might have grasped the conception of "anemia," would be bewildered beyond measure if he knew that his blood contained "polymorphonuclear neutrophiles" or gave evidence of "oligocythemia" and "poikilocytosis." For him it is still all-sufficient to know that his blood is "out of order." The only sense in which physicians can be said in any respect to have discovered new diseases is in the group of affections described as the "diseases of modern life," including the large variety of occupation neuroses, diseases caused by inhalation of dust and noxious vapors, various forms of acute and chronic poisoning arising from work in certain manufactures, drug habits, and nervous disorders attributable to the excitement and strain of competition under conditions of crowded metropolitan existence. Yet all these disorders medical science has fully met by suggesting methods of prevention and furnishing means of cure. Descriptions of phosphorus poisoning from match manufacture are no longer prominent in medical text-books as they were a generation or more ago. Chronic poisoning from arsenic, lead and mercury from working in the mechanical arts is capable also of complete prevention, as are many other occupation hazards.

Another aspect of medical science can be but barely mentioned in this review, namely the interest which the evolution of medical teaching bears for the students of pedagogy. At the period of the foundation of the first American

School of Medicine in Philadelphia, 138 years ago, of the 3,500 so-called practitioners of medicine in the Colonies, not more than 400 could be fairly described as educated physicians. Since that period we have passed through more than a century of struggling, poorly equipped proprietary schools, until by the earnest efforts of the medical profession itself, we have reached the only sound basis of medical training, the college which is a university department, equipped and administered upon broad university foundations. The student alike of history and of sociology cannot fail to find much of interest in a study of the evolution of organization and cohesion of the medical profession as illustrated by the history of its schools, societies and associations. There is a wonderful progress from the barber's basin to the equipment of a modern antiseptic surgical pavilion. In Noah Webster's elaborate "History of Epidemic Diseases," published in 1800, he expounds their etiology upon a basis of elaborate cosmological theories of earthquakes, comets, volcanic detonations and electrical atmospheric convulsions. What a development is there from such hypotheses to the exposition of medical science as presented at an International Medical Congress of to-day! Scarcely fifty years have passed since the public fought the practice of dissection by riots in New York City, and the States of New York and Massachusetts opposed it by every possible legislative obstacle. Up to 49 years ago a person detected in the act of dissecting a human body in the State of New York was liable to punishment by hard labor in state's prison (Samuel W. Francis; "Biographical Sketches of Distinguished Living New York Physicians").

Thirty years of bacteriology in all of its applications have done more for mankind than all the medical research that has preceded. In an estimate made by Alfred Russell Wallace of 25 discoveries of world-wide importance made during the nineteenth century, one fifth were contributed by medical science, and all but one of these, were made during the last half of the century, viz., anesthesia, the cellular doctrine, the germ theory, antisepsis and phototheraphy. Two more have been greatly influenced by medical science, viz., the theory of the antiquity of man and the doctrine of organic evolution. Yet we have not wholly emerged from the shadow of the Middle Ages, for have we not still among us those who would fain abolish such experiments as have made possible discoveries like those of vaccine, antitoxin, and antihydrophobic inoculations, even as there are those in Persia who would mob physicians seeking to check the spread of cholera.

If medical science produced no other economic benefit than to aid the restriction of the use of patent nostrums and the protection of a confiding public against wholesale quackery, it would be doing a noble work. Unfortunately success in this direction is far from complete, but without such restraining influence it is gruesome to contemplate the evil to which unlimited malpractices would attain.

I have thus far outlined the broader aspects of medical science as they may be summarized among the great factors in the world's progress of the day. I have purposely emphasized the economic rather than the humanitarian phase of this influence, for the former is usually of greater weight in a community in securing sanitary and hygienic reforms, in the enforcement of which, in the present state of public enlightenment legislation is often necessary. The humanitarian and medical achievements of the world are so interwoven and interdependent that they are bound to progress together. The skilful care of the sick is a foundation principle of civilization, but the care of the well, in order to prevent disease, forestall epidemics and avert physical suffering, is in many of its aspects a more modern thesis and one much more difficult for the community to grasp intelligently. Only within a very few years have those of large means begun to turn their attention to the importance of establishing and maintaining institutions of medical training, and especially of scientific medical research, as an opportunity for benefiting the community upon a truly magnificent scale; instance the Rockefeller Institute in New York City, as a foundation for pathological research, the Laboratory of Hygiene in Philadelphia, the Caroline Brewer Croft Fund for promoting the investigation of cancer, at the Harvard Medical School, etc. Of general hospitals we have enough for present needs, and in special hospitals nearly all separate classes of disease (excepting perhaps tuberculosis), are amply provided for. Of colleges for undergraduate training we have also enough; indeed it may not be deemed discourteous to say more than enough, but of facilities for purely scientific research for advancing barriers against the disease enemies of mankind, far too few. A single research like that of the lamented Major Walter Reid, in establishing the etiology and prevention of one of the most dreaded scourges of the human race, yellow fever, not alone ranks among the brilliant humanitarian achievements of history, but it cannot fail to impress the minds of practical men of wealth by its economic value as well. Such researches, like those of Pasteur and of Koch, who made it possible through their work of substituting for the spurious theory of spontaneous generation, the true doctrine of the specific nature of bacterial disease—such research has always proved of no direct pecuniary reward to the scientist. Its incalculable economic value, however, must surely, in due time, demonstrate to the philanthropist, that to invest in the endowment of medical research, is to realize the highest rate of interest for the good of mankind. In an address, delivered by Theodore Roosevelt while Governor of New York, at the inauguration exercises of the Cornell University Medical College, he said: "The work which is on the whole best worth doing for any great people is work which from its very nature cannot pay for itself. The great mass of the body politic has got to understand this, or there will be a failure to provide

opportunities for this non-renumerative work, the work which does not and cannot bring quick and profitable pecuniary returns to the doer of it."

The practical argument of this review is its application to the future of the Academy of Medicine. In surveying the economic value of medical science, one cannot fail to be impressed with its wide-reaching scope, as well as with its constantly growing influence. There is so much more in the science of medicine to-day, and all its correlated social problems, than was dreamed of in the limited pill-and-potion days of a hundred or even half a hundred years ago.

The record of the Academy in promoting the broader aims of this science is most commendable, but might we not in future accomplish much more? It should not be forgotten that it was the Academy of Medicine which by its influence secured the original organization of the Health Department of this city. It took active part in promoting the formation of the Sanitary Commission of the Civil War. It has through a special committee, repeatedly urged upon the Government the importance of establishing a National Board of Health. It has been instrumental in securing the reconstruction of the Quarantine Hospital and in securing free public baths for the poor, in preserving the city water supply upon sanitary principles, and has undertaken and accomplished many other good works of broad public interest, too numerous to further enumerate at the present time.

It might very appropriately fall within the scope of work of the Academy to include among its many sections one of Medical Economics, or Medical Sociology, with the special function of studying the broader aspects of medical science as affecting great public interests, studying them with the view to formulate conclusions and offer recommendations for action. Moreover, one or two of the general meetings of the Academy might systematically be devoted each winter to the open discussion of such topics. The public should learn more and more to look to the Academy as a Supreme Court in matters hygienic and sanitary. It would seem that the day has passed when such suggestions can be met by the plea that it is not the legitimate function of physicians to "meddle in politics," or to attempt to secure legislation for needed sanitary reforms and that our professional standards will be lowered by public campaign against flagrant abuses of the public health. The true disciple of Æsculapius is so imbued with the doctrine of the enormity of self-advertisement that he often shrinks from manifest public duty. While this doctrine is still earnestly applicable to the individual, the collective action of a representative body of physicians, such as compose the membership of this Academy, cannot be misconstrued. The whole subject of medical science is too broad to longer admit of narrow-minded criticism of the advocacy of sanitary reforms and betterments which may be instigated by the deliberations and through the influence of this institution. The Academy, which can refer with so much pride to its record in the past, need not fear to lower its dignity or lessen its purely scientific prestige by keeping pace with modern requirements and acting promptly and decisively as the sponsor of the public health. In closing, I cannot more appropriately emphasize this view than by quoting from the address delivered at the semi-centennial celebration of the Academy by that distinguished statesman who then honored us with his presence—Grover Cleveland: "We cannot keep out of mind the suspicion that if your professional work in exposing evils were more thoroughly supplemented by labor in the field of citizenship, these evils would be more speedily corrected. If laws are needed to abolish abuses which your professional investigations have unearthed, your fraternity should not be strangers to the agencies which make the laws. If members of your profession were oftener found in our national and State legislative assemblies ready to advocate the reform measures you have demonstrated to be necessary, and to defend your brotherhood against flippant and sneering charges of impracticability, the prospect of your bestowal upon your fellow-men of the ripened results of your professional labor would be brighter and nearer."

ETIOLOGY OF RACHITIS.

BY P. WM. NATHAN, M.D.,

OF NEW YORK.

THE gross pathological anatomy of rachitis is well and definitely known; and it would add unduly to the length of this paper, were I to speak of it in detail. The lesions in the skeleton are the most constant and characteristic, and these must form the basis for any attempt to explain the nature and cause of this disease. These are therefore very briefly described:

The characteristic lesions appear at the growing ends of the long bones, causing a disturbance of the inter-cartilaginous ossification. These changes may be enumerated as follows: (1) defective calcification of the proliferating cartilage; (2) defective calcification of the new formed ostoid tissue; (3) increased vascularity; (4) hyperplasia of the proliferating cartilage cells. The vascular and hyperplastic processes are not, as has been shown by Pommer[1] directly connected with the pathogenesis; but are due to external and purely mechanical influences. The essential part of the pathological process is the defective calcification; for aside from the changes just noted the bone is normal. The ostoid tissue formed is in no way different from that formed in normal bones; the periosteum aside from defective calcification and changes due to mechanical influences, shows no change; the medulla of the bone is not altered; and contrary to the opinion of some authors the resorptive processes are not increased.

Pommer[2] has proved that the defective calcification is due to a dissolution of the previously

deposited lime salts in such rare instances that we may disregard it entirely; we must therefore conclude that, primarily, the bone lesions of rechitis are defective calcification of the cartilage and newly formed bone.

Up to the present time, no local condition has been found which can be considered the cause of the defective calcification. On the contrary, as I have pointed out, the local conditions in the bones are either secondary to it or are due to external physiological influences. Such being the case, we are perforce compelled to seek an explanation of the anomaly outside of the skeleton. And as the skeleton as a whole is uniformly and constantly affected in the same way, we must assume that this anomaly is of a general or constitutional character. This assumption is borne out by the other lesions and symptoms of rachitis: the enlargement of the spleen, the hydrocephalus, the nervous phenomena, the intestinal disturbance, the bronchial catarrh, etc., all point to a constitutional vice as the cause of the anomaly. Hence the etiology of rachitis must be sought in a condition or series of conditions, which are inimical to the calcification of the growing bones.

This being granted, the subject can be studied from two standpoints: we can assume that a constitutional anomaly is the cause of the inhibition of the calcium deposition, and attempt to explain the nature and cause of rachitis by investigating the cause and nature of this anomaly; or we can assume that a deficiency in the amount of the calcium within the organism is instrumental in producing not alone the faulty calcification but also the constitutional anomaly.

Ever since the discovery that rachitic bones are deficient in inorganic salts, the latter assumption has been the basis, or at least the starting point of the majority of the investigations on the etiology of rachitis. The deficiency of calcium within the organism has most frequently been attributed to one of two conditions; either the calcium of the food is deficient; or, that not being the case, the absorption of the calcium is defective. Experimentally, it has been definitely proved (E. Voit,[3] Roloff[4]) that total absence of calcium in the food, when the food is otherwise suitable, and sufficient in quantity, will induce the true rachitic bone lesions in growing animals. But such a combination of circumstances as total absence of calcium in a food otherwise suitable, does not occur naturally; and clinically rachitis cannot be said to arise from such a condition of affairs. The calcium in the human milk, the milk being otherwise normal, is always ample for the needs of the infant metabolism; cow's milk and all other "infant" foods, contain either sufficient or even an excess of this substance.

Consequently, if we still adhere to the theory of deficient calcium, we must assume that the absorption is defective. To prove this a vast number of experiments and researches have been attempted, and this theory has, I believe, been accepted by the greater number of medical men. Uffelmann[5] and Escherich[6] examined the feces of artificially fed children and found that the calcium was always greater in these than in the feces of breast-fed children, and they concluded from this that the calcium assimilation is not as perfect in the former as in the latter. That the absorption of calcium is defective in rachitic children seems, moreover, to be borne out by the investigations of Seeman,[7] who found that the amount of calcium in the urine of rachitic children is diminished. Seeman attributes the faulty assimilation to insufficiency of the HCl in the gastric juice. To account for this he adduces Bunge's sodium chloride theory, which supposes an excess of K in the food, causing an NaCl deficiency and consequently a deficiency of HCl secretion. Zander[8] believed that he had proved this assumption to be correct by demonstrating that in the milk of a number of mothers nursing rachitic infants, the relation of the K to Na was in favor of the K. In a very elaborate monograph on the etiology of rachitis Zweifel[9] has gone over this ground very fully, and he believes that he has placed the theory of deficient HCl and consequent faulty assimilation of calcium upon a firm basis.

By withdrawing the NaCl from the food (vegetable diet) of nursing women he hoped to induce a NaCl deficiency, which, he argued, would have a twofold effect. In the first place it would diminish the amount of calcium assimilated by the mother, and thus diminish the amount in her milk; in the second place it would diminish or eliminate entirely the supply of sodium chloride to the child, which in turn would inhibit its power of absorbing calcium. Thus he hoped to induce rachitis. His results, however, were not favorable; and he found that the reason for this was that no matter how strictly he eliminated the NaCl, the maternal organism was still able to extract a sufficient amount from the food to keep the quantity in the milk within a certain limit. Nevertheless he considers Zander's and Seeman's observations conclusive; and concludes that in nursing infants rachitis is caused by a deficiency in the HCl and a consequent malassimilation of calcium. That such a lack of NaCl in the food of nursing mothers can occur under other than experimental conditions he considers proved by the fact, that in Saxony, where it is a national peculiarity to take black bread without salt, rachitis is unusually frequent and of an unusually severe character.

However, as these observations are capable of explaining the pathogenesis of rachitis in nursing infants only, if at all, he proceeded to investigate the relation of these facts to artificially fed infants. In order to discover the fate of the calcium after its ingestion, he performed a very extensive series of test tube experiments in the digestion of cow's milk. As a result, he found that the dissolved calcium salts of the cow's milk are, to a very large extent, changed into insoluble combinations when the milk is coagulated by the milk-curdling ferment. When the milk is boiled, the amount which becomes insoluble is even

greater, so that the quantity of soluble calcium which remains after coagulation is below that contained in an equal quantity of human milk. The insoluble calcium salts in the milk curd can be redissolved in only one way, that is, by the presence of an acid—in the case of the infant's stomach, HCl. It depends, therefore, upon the quantity of HCl in the stomach whether or no, a sufficient quantity of calcium is made soluble and absorbed. If the HCl is deficient a calcium deficiency occurs in spite of the excess of calcium in the cow's milk. From this he concludes that, whenever, either as a result of the action of Bunge's law, or as the result of a primary deficiency of NaCl, a deficiency of HCl occurs rachitis will be induced.

Zweifel's monograph is very interesting and embodies a vast amount of time and work; moreever it represents the highest development of the theory of deficient absorption of calcium as the cause of rachitis. However, in spite of the accurate and scientific manner in which his individual experiments were conducted, this hypothesis must inevitably fall to the ground. Granting that the experiments themselves and the conclusions to be drawn from them are perfectly scientific and accurate; as a complete entirety the theory is false; necessarily false, because the premises upon which it is founded are fallacies.

Zweifel assumes, upon what ground he does not state, that the HCl secretion is absent or very deficient in early infancy, and continues so for some time after, though there is abundant evidence to the contrary. He also assumes that besides the natural deficiency, a further deficiency is induced by lack of NaCl within the infant's organism, and adduces Bunge's[10] law to prove this.

As far as the latter assumption is concerned, it takes very little insight to appreciate that Bunge's law has only a very limited application in this respect. Excess of K. in the food no doubt produced a NaCl loss within the organism, by the combination of the K with the Cl and the subsequent excretion of the KCl thus formed; but this replacement of the Na by the K only continues so long as the NaCl within the body is in excess of what is absolutely necessary to the organism (Cv. Voit).[11] Otherwise the organism tenaciously holds its NaCl; and unless very unusual and very unnatural conditions prevail, there is always a sufficient quantity retained to prevent NaCl starvation. Zweifel's own experiments prove this; for although he forced nursing mothers to consume vegetable food, poor in NaCl, and eliminated all other sources of NaCl, he was unable to reduce the NaCl in the milk of the mother, or that in the urine of the child beyond a certain point; that is he was able to induce NaCl deficiency in neither mother nor infant.

However, even were it true, which it is not, that by the entire elimination of NaCl, except that naturally contained in the food, NaCl starvation could be induced, this would not prove that NaCl deficiency is the cause of rachitis. Such a peculiarity as eating food without the addition of salt does not exist, even among the most poor and destitute. That the black bread of Saxony is baked without salt does not indicate a general tendency in this direction; Zweifel himself considers this a local peculiarity. Yet rachitis, as all medical men can testify, occurs in nursing infants outside of Saxony, and in this country where we are particularly partial to salt, it certainly is not rare.

But even were we to assume that a NaCl deficiency could occur from natural causes this would not constitute proof that such a deficiency is the cause of rachitis. It would first be necessary to prove that the calcium is absorbed in the stomach; and could only be absorbed if it were dissolved by the HCl contained in the gastric juice. But this has never been proved; on the contrary such an assumption is opposed by a number of physiological facts. In the first place only a very small amount of calcium is taken in, and is necessary for the organism, no matter how much is present in the food ingested; secondly all dissolved calcium salts if absorbed are precipitated by the alkaline body fluids. These and other physiological considerations lead us to conclude that only a very small amount of calcium, which is in combination with organic substances, thereby retaining its solubility, is assimilated.[12]

These theoretical considerations are, I think, more than sufficient to show that the deficient NaCl hypothesis is untenable. However, leaving them aside, I believe the experiments and observations of which I shall give only a summary here, make it certain that, while the bone lesions of rachitis may be induced by the elimination of the calcium from the food, such an absence of calcium from the food is not the cause of clinical rachitis; that in fact the lack of calcium cannot be held responsible for its causation at all.

According to those who hold the theory elucidated above, rachitis is due to a deficiency of calcium within the organism; this deficiency, they assume arises, not because of a lack of calcium in the food, but because the calcium therein contained is not absorbed. Now Rüdel's[13] experiments prove conclusively that even in the severest forms of rhachitis, soluble calcium is absorbed in the same proportion as in health; so that as Zweifel contends the root of the trouble must lie in the insolubility of the calcium salts contained in the food. Hence if this contention is to hold, rachitis cannot supervene so long as the organism has a sufficient amount of calcium at its disposal.

I have been fortunate enough to be enabled to put this contention to such a test. I have had under my observation three infants of about the same age (12, 12½ and 13 weeks respectively), whose mothers were either compelled or for other reasons decided to take their infants from the breast. Two of these infants were perfectly normal, the other had symptoms of insufficient nourishment. These three infants were then fed upon condensed milk, a teaspoonful of milk to

twelve of water, which later was reduced to ten teaspoonfuls. Besides this food, there were given soluble calcium phosphate, the monobasic calcium phosphate and sodium chloride; this was given in the form of a mixture.

℞ Monobas. calc. phosphate
Nat. chloride, aa..... 3.0 (gr. 45)
Syr. simplicis
Aquæ, aa.....30.0 (℥)

to be administered three times a day one-half hour before feeding, that is, upon an empty stomach. Thus these infants were receiving an excess of soluble calcium and in addition, sodium chloride, to increase the hydrochloric acid in the gastric juice, so that (if Zweifel's view is correct) an additional amount became soluble from the calcium contained in the food. Now mark the result.

These infants were kept under observation for about one and a half years. At first all three did fairly well, they gained in weight, took the food readily, had no signs of gastro-intestinal disturbance, and apparently were perfectly comfortable. During the middle of the fifth month, however, two of the children began to show signs of illness. They cried more than usual, showed a disinclination to being handled, and were constipated. By the middle of the sixth month, both children had begun to sweat and bore the head into the pillow, and by the middle of the seventh month both had pronounced signs of rachitis, *i.e.*, enlarged epiphyses, prominent abdomen, bearing of the ribs, suggestion of Harrison's groove, etc. It seems remarkable, but nevertheless true that the third infant, the one who at the beginning showed signs of insufficient nourishment, was at the time the condensed milk was discontinued, perfectly well, showing absolutely no signs of rachitis.

Early in the eighth month, the condensed milk, and at the same time, the administration of monocalcic phosphate and sodium chloride were discontinued and the children were placed upon a diet of cow's milk in the proportion of three-quarters milk to one-quarter water. This mixture received no other addition, was sterilized (?) by simply allowing it to boil up once over the free fire—allowed to cool and placed upon ice until required for use when the quantity to be used was warmed. Upon this diet, which was soon augmented by eggs and cereals, the rachitic infants immediately began to improve; they gained in weight, cried less and less and the symptoms and signs of rachitis gradually disappeared.

I think there can be no doubt at all that these observations are conclusive. Here we have two infants, with an abundance of soluble calcium at their disposal; not alone at their disposal but ingested in such a manner as to render it impossible for non-absorption to take place, if absorption ever takes place at all. Nevertheless these infants became rachitic. And what shows still more clearly how small a part the soluble calcium ingested with the food plays in the production of rachitis, the cessation of all the extra ingestion had absolutely no influence in retarding the recovery from rachitis, so soon as the infants were given a more suitable food. More conclusive evidence against the theory that the calcium itself or the NaCl indirectly, are concerned in the production of rachitis could not be desired.

Nevertheless, for fear that these observations may be considered too few to be of value, I have adduced further evidence to support this contention. If, again, we assume that the calcium deficiency is the cause of rachitis, we must conclude that, other things being equal, the rachitis must disappear as soon as the calcium deficiency is compensated. With a view of testing this conclusion, I have tabulated the results of various forms of treatment in rachitis, including that of the administration of soluble calcium phosphate.

I have records of 803 cases, of which 203 were seen only once or twice, and are therefore not available for our purpose; 123 are not considered here, for reasons which I shall speak of in another paper. Of the remainder 150 were seen prior to 1901 and were treated according to Kassowitz with phosphorus; 50 (seen during the winter and over six months old,) were given cod-liver oil; 150 were given monobasic calcium phosphate, in the manner described above; and 127 received no medication whatsoever.

All the children were, so far as is possible in polyclinical practice, placed upon a uniform diet. A number of the mothers, the most ignorant and careless, probably did not follow instructions, but the majority of them were, I believe, conscientious and any lack of favorable results in the treatment must be ascribed to other causes. Infants over three months (there were none younger) were given three-quarters milk and one-quarter water, to which was added sugar of milk in the majority of cases, and treated in the manner above described. If three-quarters milk caused gastric disturbance the quantity was reduced for a time, but soon gradually increased again. The period of observation always exceeded one month.

It takes only a cursory glance at the tables to convince anyone that there is a remarkable uniformity in the results of treatment. The percentage of improvements varies only slightly with the various forms, being slightly higher without medication, and lowest with the administration of phosphorus. That the calcium phosphate has no greater curative influence than other therapeutic measures is evident from the fact that improvement was no more frequent when it was administered than when nothing at all was given.

These practical observations, therefore, bear out the theoretical consideration. The latter lead us to believe that the organism is not dependent upon the soluble calcium, in fact, the physiological consideration shows that it receives it almost entirely in the form of an organic compound with albumin. However, even should the absorption of the calcium be dependent upon its solubility, there is no reason to believe that the infant is un-

able to secrete sufficient HCl to bring it into solution. The former, (*i.e.*, the practical observations), show conclusively that infants can, and do become rachitic in spite of an abundant supply of absorbable calcium, and that children with rachitis are not cured any more rapidly when an excess of absorbable calcium and sodium chloride is supplied them, than when these are omitted.

We must, for these reasons, conclude that a deficiency in the quantity or a faulty absorption of the calcium ingested is not the cause of rachitis.

Such being the case, and our only clue to the etiology of rachitis being the faulty depo-

TREATED WITH MONOCALCIC PHOSPHATES.

Age	No. Cases	Improved	Not Improved	
3 to 4 mos.	4	4	0	Children whose previous food was condensed milk.
4 to 6 mos.	6	5	1	
3 to 4 mos.	10	10		Children whose previous food was cow's milk or artificialfood.
4 to 6 mos.	52	45	7	
6 to 8 mos.	40	33	7	
Over 8 mos.	36	25	11	
Over 1 yr.	2	2		Children whose previous food was human milk.
	150	124	26	

Per cent. not improved, 18.8.

TREATED WITH COD LIVER OIL.

Age	No. Cases	Improved	Not Improved	
4	1	1		Children whose previous food was condensed milk.
7	1	1		
3 to 4 mos.	12	11	1	Children whose previous food was cow's milk.
4 to 6 mos.	10	7	3	
6 to 8 mos.	5	4	1	
Over 8 mos.	8	6	2	
3 to 4 mos.	3	3		Children whose previous food was proprietary food.
4 to 6 mos.	5	4	1	
Over 6 mos.	5	4	1	
	50	41	9	

Per cent. not improved, 18.

CHILDREN TREATED WITH PHOSPHORUS.

Age	No. Cases	Improved	Not Improved	
3 to 4 mos.	20	18	2	Children whose previous diet was cow's milk or proprietary food.
4 to 6 mos. or more	60	47	13	
6 to 8 mos.	44	34	10	
3 to 4 mos.	2	2		
4 to 6 mos.	8	7	1	Children whose previous diet was condensed milk.
6 to 8 mos.	11	9	2	
Over 9 mos.	5	4	1	
	150	121	29	

Per cent. not improved, 19.

CHILDREN WITHOUT MEDICATION.

Age	No. Cases	Improved	Not Improved	
3 to 4 mos.	2	2		Children whose previous diet was condensed milk.
4 to 6 mos.	1	1		
6 to 8 mos.	4	3	1	
3 to 4 mos.	19	17	2	Children whose previous diet was cow's milk or proprietary food.
4 to 6 mos.	30	25	5	
6 to 8 mos.	32	25	7	
8 to 12 mos.	34	29	5	
Over 12 mos.	1	0	1	
Over 12 mos.	4	3	1	Children who were breast-fed.
	127	105	22	

Per cent. not improved, 17.3.

sition of the lime salts in the bones, the assumption (mentioned first at the beginning of our discussion) that an anomaly of the metabolism, which besides causing other abnormalities, is inimical to the normal calcification of the bones, must form the starting point of our search for the cause of rachitis.

How such an anomaly is induced is difficult of explanation. Moreover, it will remain difficult or impossible to explain, until we have a better understanding of the nature of the anomaly than we have at present, *i.e.*, until we have a more definite knowledge of the pathogenesis of rachitis. In this respect we are, as Vierordt[14] aptly remarks, still completely in the dark.

My original intention was to take up this portion of the subject this evening. I flatter myself that some of my observations are likely to throw some light upon this mystery. However, the time alloted does not permit of this and I must therefore reserve the exposition of this part of the subject for a future paper.

112 East Sixty-first Street.

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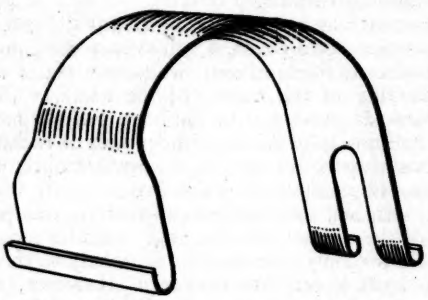
Treatment of Hemorrhoids.—It is somewhat singular that a method can be described as "new" which has been in vogue for a considerable time. JOHN LANDSTROM (Zentralbl. f. Chir., Nov. 21, 1903) describes the use of the angiotribe in the treatment of this condition, which he says he introduced in September, 1902. He states that the operation is much more desirable than either the cautery or the ligature—first, because of its certainty, and second, because of the speed with which it can be accomplished.

SPLINT FOR TREATMENT OF FRACTURE OF THE INFERIOR MAXILLA.

BY CLINTON B. KNAPP, M.D.,
OF NEW YORK.

DURING my service as interne at the French Hospital, we had two cases of fracture of the lower jaw which gave us considerable trouble to keep in proper position. The anterior fragment being pulled downward and backward by means of the muscles attached to the hyoid bone. The posterior fragment being displaced in the opposite direction due to the pterygoid, masseter and temporal muscles. Many attempts were made to keep the ends approximated by means of various bandages, on the principle of the old four-tailed bandages; these pull backward as well as upward, whereas traction upward and forward was needed. To accomplish this I took a strip of tin, turned up one end to form a gutter, carried the strip from the forehead over the vertex and well under the occipital protuberance. This was made secure by a plaster-of-Paris bandage.

Fig. 1.



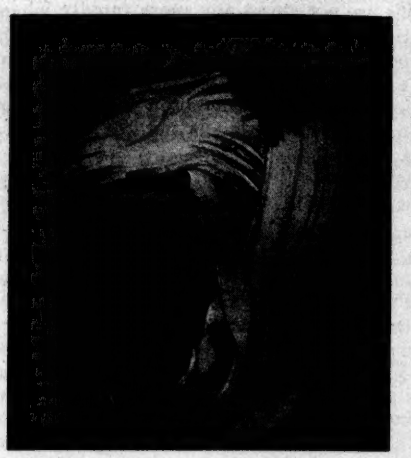
Strips of adhesive plaster from the under surface of the chin to the gutter of the splint gave the desired upward and forward traction, thus getting apposition of the fragments and perfect position of the jaw. Adhesive plaster has the advantage of not slipping. The posterior part of the splint passes down on either side of the occipital protuberance so that the patient has no discomfort from pressure.

Case I.—T. W. N., thirty-five years old, entered the French hospital Feb. 21, 1903, during the service of Dr. E. H. Pool.

The fracture, the line of which was from a point behind the teeth on the right side, downward and backward, was received in a fight ten days before coming to the hospital. Previous to his entering a number of attempts had been made to set the fracture, among them an interdental splint had been tried, without success. After entrance various bandages were applied, also with no success. The tin splint held the fragments in perfect apposition with no further trouble. Removed at the end of three weeks, with good result.

Case II.—S. H., twenty years old, entered the hospital Oct. 6, 1903, during the service of Dr. Charles H. Peck. Fracture on right side through the lower part of ramus, the result of a fight. Splint removed at the end of three weeks. Result good.

Fig. 2.



Dr. Charles H. Peck presented the last case for me, together with the splint, at the Surgical Society, on Nov. 11, 1903.

With this method of treatment the patient has free movement of the head. The splint is very light, easily made and easily applied.

THRUSH.

BY H. ILLOWAY, M.D.,
OF NEW YORK;
FORMERLY PROFESSOR OF DISEASES OF CHILDREN, CINCINNATI COLLEGE OF MEDICINE AND SURGERY; FORMERLY VISITING PHYSICIAN TO THE JEWISH HOSPITAL, CINCINNATI; MEMBER OF NEW YORK ACADEMY OF MEDICINE, ETC.

THOUGH most frequently a trifling affection that is readily cured with the aid of some simple remedy it may nevertheless at times become a very serious trouble, so serious indeed as to threaten, aye, even to take the life of the child.

Thrush is a disease of filth, of uncleanliness on the part of the mother or nurse or whoever may have charge of the infant; uncleanliness of the breasts, uncleanliness of the nipple and of the nursing bottle, uncleanliness as regards the general hygiene of the child. One of the worst cases that I met with was in a fairly well-to-do family where the grandmother, a foreign woman accustomed to the res angusti domi and the squalor and filth of the paupers of Northern Europe, took charge of the new-born babe. She abhorred water and thought the infant must be of the same mind and instead of washing it smeared it over with butter. She put her fingers into the infant's mouth without any previous cleansing, regardless of what she might have been doing before. It was impossible to change her methods, she had had children, had reared several and certainly knew what to do. The small pieces of muslin

which she prepared wherewith to cleanse the child's mouth she cut from a piece that had been rolling about the goods' table for some time, and kept them, so as to have them handy, under the mattress of the infant's cradle. The breasts of the mother were also not exposed to the dangers of a cleansing with water, but were likewise smeared with butter (taken from that upon the table for common use), as the daughter, like the mother, thought this the safer practice. As a natural consequence thrush supervened, became more and more intense and after a period of some weeks carried off the babe by inanition.

The disease once present, it is again the carelessness of mother or nurse that tends to its spreading and therefore its aggravation. The parasite, the *Oidium albicans*, is readily propagated, and a small particle thereof transplanted elsewhere and given an opportunity to become adherent will soon produce an abundant crop in the new locality. The cleansing of the infant's mouth is usually done with the finger wrapped with a piece of muslin or linen, and in the treatment of thrush the topical applications are in most instances made in the same manner. Usually the process is immediately repeated, two applications, one immediately after the other, being thus made. In the performance of this act more or less of the parasite is detached and adheres to the cloth and not infrequently the epithelial covering at one or the other points is abraided. Now, if it be done by an ignorant and slovenly person, no particular care is had as to the cleanliness of the cloth with which the finger is wrapped and after the first application, the soiled cloth instead of being replaced by another —by a clean one, is allowed to remain, dipped into the mixture and the application repeated. The detached particles of the parasite are thus reintroduced into the mouth. Of these some may become replaced while others, falling loose into the mouth, are, as the infant does not spit out, carried backward to the furthermost portions of the dorsum of the tongue, to the fauces, to the pharynx and even to the esophagus.

That uncleanliness of the mother or nurse, both as regards her own person and that of the infant, is the factor in the production of this ailment cannot be questioned to-dav and is amply demonstrated by the following facts:

1. It is now a recognized fact that the disease may develop in an infant otherwise healthy and with an oral cavity in a normal state (and not, as was formerly taught, only in infants ailing in some way or other and with the mouth more or less inflamed).

2. Since the better knowledge as regards the care of infants has become more widespread among the laity the disease has become of rather rare occurrence in this country.

3. Even in the many grave cases of gastro-intestinal disease, which I met with in a long series of years, which is particularly frequent in the summer and which is supposed to favor the development of thrush, careful attention to hygienic requirements, wherever faithfully given, prevented its development.

4. The parasite is always introduced from without.

The infant thus afflicted will not or cannot nurse. Whether this is due to an irritated condition of the tongue and other parts of the buccal cavity following upon the invasion and making suction painful or whether it is due merely to the presence of the parasite which either takes away the appetite or develops a bad taste in the mouth and therefore a dislike for the food, is a question that has not been determined. To me it would seem, judging from the cases here reported and a few others, that it must be due to the presence of the parasite for in these cases very shortly after the mouth was freed therefrom the infants began to nurse again and with a right good will.

As a consequence of this refusal of food inanition soon sets in and a rapid deterioration of vitality ensues.

Of course the further down the parasite spreads the more serious becomes the case and when it has reached the esophagus the condition may be said to be hopeless, the infant starves to death.

The treatment of the lighter forms of thrush, where the parasite has as yet spread but little and its threads have not yet penetrated the epithelial layer, is not a very difficult matter. In common use with practitioners and laity is borax in some form either in solution or as a paste made with honey, as recommended by Trousseau[1] and applied with the finger as above described. Some indeed, upon the ground that the parasite thrives only in an acid medium, content themselves with the application of Vichy water or of solutions of Soda bicarbonate. Early in my experience as a medical practitioner, seeing the evils that attended the applications made with the finger, I preferred to use the hyposulphite of soda which was supposed to possess marked antiseptic properties.

℞ Soda Hyposulph..... ℥i
Ag. Destill..... ℥v
Glycerin..... ℥iii
M. Sig.: One teaspoonful every two hours

administered internally and applied topically with a large camel's hair pencil. In the ordinary cases and even in some where the parasite had already attained considerable extent this agent gave me excellent results, better than those usually obtained with the borax.

However, it is not these lighter cases that are the source of worry and trouble. It is where the parasite has spread largely, where its threads have sunk down deeply into the tissues and feeding becomes almost impossible that the question arises what can we do to save the humunculus.

Various of the more potent remedial agents have been recommended: Trousseau[2] advised nitrate of silver and this agent seems to be the favored one as yet with many pediatrists; while J. Lewis Smith[3] prefers the use of

℞ Zinc sulphate.....grs. ii to iv
Aq. Rosæ .....℥ii

A weak solution of mercury bichloride in alcohol, to be applied with the finger as described. It is said that one or two applications are effective. A dangerous remedy, except in the hands of the most expert, and even then its success has not been such as to commend it to physicians in general.

Application of the perchloride of iron once a day or every second day (Comby[4]).

A solution of potassium permanganate, 1 in 25 topically and the administration (internally) of a solution of resorcin 1 in 100 three to four teaspoonfuls in twenty-four hours (Baginsky[5]).

None of these agents have that certainty of effect and that rapidity of action needed in these severe cases where every moment lost is of grave detriment to the starving child confronting us.

Lately Vladimiroff[6] recommended that the parasite be forcibly removed by means of the dry swab and the forceps and the parts then brushed with a two per cent. solution of silver nitrate. He admits that the procedure is a rather brutal one but fully justified by the exigencies of the case.

In the course of practice I came across such cases now and then and after several failures with various methods of treatment it occurred to me that the remedy which was then known to us as the best antiseptic, namely iodine, and which with many of us, as with me, was the standard application in the various anginas, was the remedy par excellence to apply. Fortune favored me and soon gave me the opportunity for a trial. I made it, and all expectations were realized. One thorough application and the parasite was removed.

Case I.—March, 1881. I was called to see Baby K. Its mother a woman in very modest circumstances, was delivered of it six days ago by a midwife and it then appeared a healthy and well-developed infant. There was nothing extraordinary about the confinement, in fact, as I was told by a neighbor woman experienced in these matters, it was rather an easy one, and although subsequently things ran on smoothly, the lochia normal, the breasts filling with milk, though not abundantly, no fever at any time, the mother seemed to fall into a state of listlessness, of apathy and had no care for the infant or anything else. The care of the baby, outside of the visits made by the midwife once in the morning, devolved upon a little girl eight years old (the father was away in the country peddling).

At the outset the baby had nursed well but later on it seemed to have some difficulty in doing so. In the last twenty-four hours, when put to the breast it would take hold of the nipple, hold it for a little while, making but feeble effort at suction, and then let go.

Examining the infant's mouth I found it affected with thrush. Otherwise everything seemed normal. I prescribed the borax and honey preparation as perhaps the easiest of application under the circumstances and directed the mother to apply it three times a day giving her detailed instructions therefor.

To make a long story short, the mother paid no attention to the baby despite all my scoldings, remaining all the time in bed in the same apathetic state; the little girl did the best she could and when I called for the third time, on the fourteenth day (of its birth) I found the whole tongue back to its root covered with the parasite, and small patches on the gums and on either cheek. The infant had not nursed at all for the last twenty-four hours and hardly at all the days preceding that. It thus got but little nutriment outside of a little sweetened fennel (seed) tea which the little girl gave it with a teaspoon several times a day. It was very weak, cried in a low wailing tone and showed a considerable loss of flesh. It was evident to me that more effective treatment was required if the baby's life was to be saved. I sent to the drug store and had put up the following:

℞ Tinct. Iod.....3ss
Glycerin.....3iiiss

As soon as it was brought I applied it with a large camel's hair pencil to the tongue, gum and cheeks. The effect was remarkable; the parasite seemed to melt away as it were and when I was through not a vestige remained.

I now pulled the mother out of the bed (literally) and made her get into her clothes. I directed her to sponge herself, particularly her breasts, very thoroughly with soap and water, rubbing dry with a clean towel. To do this every morning and to use a fresh towel for drying each time. This was as much as could be expected. After an hour or so she was to put the child to the breast and to do this regularly at intervals of two hours, etc.

I called the next day, found no trace of thrush and was told that the infant had nursed well throughout the day and twice in the night. To make sure of this I had it put to the breast in my presence and was thus convinced that it nursed very well, with evident relish as if it realized that it had to make up for lost time. The mother also seemed to have recovered all her former energy.

Case II.—October, 1883. I was called to see Baby M., three weeks old. Its mother, now a widow, is compelled to go to work daily for the support of her family and with the exception of morning and night nursings the baby is fed with a bottle, condensed milk being its food. Its care throughout the day devolved upon a twelve-year-old girl.

Up to the fifteenth day the baby nursed and took its bottle with much vigor and throve nicely. On that day the little nurse noted that her baby brother did not seem as eager for the bottle as he had always been previously. However, he nursed the breast well. A little later it nursed but little, taking hold of the nipple, making a few suctions and then letting it go again. In the last two days it would not take the bottle and did not nurse

the breasts, and all the nourishment it has received in that time has been what the mother squeezed out of her breasts into its mouth.

Examination of the mouth shows extensive thrush all over the tongue to its root with small patches upon the fauces and upon the cheeks.

Treatment.—The iodine mixture was applied thoroughly wherever the parasite was found and after the brush was withdrawn the parts looked red, slightly irritated, but clean.

Minute directions were given the mother as to the necessity for cleanliness of the breasts and of the bottle and how to care for the latter.

I saw the baby some three or four days later; no further evidence of the disease. The child again took the bottle very well and nursed the breasts with all its pristine vigor.

I have seen other cases since, treated them in the same way and all with the same happy result.

At the outset I was inclined to ascribe all the virtues to the tincture of iodine, regarding the glycerin as a convenient vehicle only, but since then I have discovered that the glycerin is also a very important factor, as it certainly loosens up the mycelium from the tissues to which it is attached and makes its removal an easy matter. Without exaggeration it can be said that this plan of treatment surpasses any that has hitherto been recommended in the readiness of application, the harmlessness of the remedial agent employed and the marvelous rapidity of its action—truly *cito, tuto et jucundo.*

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THE INTERNAL TREATMENT OF DISEASES OF THE BLADDER.

BY LOUIS STERN, M.D.,
OF NEW YORK.

WHILE in cystitis local measures have to a great extent superseded the internal treatment, the latter is not as unimportant as some authors are inclined to think. In the old materia medica the so-called urogenital remedies occupied a prominent place. They were employed indiscriminately in most genito-urinary diseases, and at that time regarded as almost indispensable. Nowadays, however, their use finds but limited application, and in much smaller doses than those in which they were formerly prescribed.

The tendency at the present time is to regard affections of the bladder and urethra, and the prostatic troubles with which they are so often associated, as chiefly of bacterial origin. This has had a corresponding influence upon the internal treatment. Until the introduction of hexamethylene-tetramin, which is known commercially as urotropin, formin, aminoform, cystogen, etc., there was no drug which could be regarded as an internal antiseptic in the true sense of the word. In fact, the only drugs of this kind which have been administered are benzoic acid, salol, and boric and salicylic acids, and these are not sufficiently powerful to produce any marked destructive action upon microorganisms in the urinary tract. On the other hand, hexamethylene-tetramin has the property of setting free formaldehyde during its process of elimination through the urine, and thus bringing this powerful antiseptic directly to bear upon the source of the infection. It therefore quickly found its way into genito-urinary therapy, and for a time seemed to leave nothing to be wished for. Then came reports of its irritating the kidney and producing hematuria and albuminuria and disturbances of the digestive organs. It was also found that in certain cases in which the urine was strongly ammoniacal the drug was not decomposed and did not yield up its formaldehyde. Unfortunately, these were often the very cases in which its action was most desired, so that there was considerable room for improvement, and when a new derivative of hexamethylene-tetramin, known as helmitol, or hexamethylene-tetramin anhydromethylene citrate, was brought forward, which seemed to possess some important advantages, I was not loath to give it a trial.

My experience with the new drug has now extended over six months, and during that time I have had occasion to frequently test it and convince myself of its merits. Compared with hexamethylene-tetramin, I have found that it can be given in much larger doses without exciting irritation and that it is more uniform in its action; in fact, the reaction of the urine seems to exert no influence upon its sterilizing effect, and this factor can be ignored during its administration.

In most of my cases I have had no opportunity to make thorough examinations of the urine, so that I was unable to determine its degree of antiseptic power; all that I know is that in cases in which the urine was turbid and filled with mucus and pus, it rapidly cleared up and lost its offensive odor.

The drug also seems to have some pain-relieving quality, for even before the urine had become perfectly sterile the tenesmus was often greatly diminished.

I have recently read an abstract of an article that appeared in a German journal detailing some comparative experiments with hexamethylene-tetramin and helmitol in the Hygienic Institute of Zürich, in which the author, Dr. Müller, after a series of thorough tests, found that the latter had a much more pronounced antibacterial action than the former. All my experience, however, has been purely clinical, and is recorded in the following observations, the only ones of which I was able to keep notes:

Case I.—Mr. J. C., sixty-nine years old, had suffered for several years with bladder trouble and more or less tenesmus. When I first saw him (May 15, 1903) he was passing his water

about every hour, and complained of considerable pain during the act, and only voided two or three drams at a time. He passed in my presence about 3½ drams of urine, which was very turbid and ammoniacal, and contained considerable mucus and pus. Examination of his urethra revealed no stricture, but on examining per rectum I found enlargement of the left lobe of the prostate. Treatment was initiated by gentle massage of the prostate, and 15 grains of helmitol given four times a day. I saw him again on May 17, and learned that he was no better; it seemed as though the urine flowed a little more freely, but try as he would he could not pass over three drams in my office. I did not massage his prostate this time, but waited until May 19, when this procedure was thoroughly carried out. Up to that time he had been unable to pass more than three drams of urine, which had not shown any improvement thus far. On May 23 the patient returned, and on this occasion he passed 6½ drams of urine, which was much less turbid and neutral in reaction. The prostate was again massaged and he was given 15 grains of helmitol every three hours until 75 grains had been taken. The additional 15 grains seemed to help him very much, for on May 26 he voided in separate glasses about 8 ounces, which was almost clear and of slightly acid reaction. The tenesmus had greatly diminished, and he was able to hold his water for longer intervals. The prostatic trouble had not improved thus far under treatment, which was continued. May 30, the condition was not much changed since his last visit, only that he said he felt much better and that during the night he did not have to get up as often as formerly. June 2 he passed 7 ounces of urine in my office, which was slightly acid and almost clear, the ammoniacal smell having entirely disappeared. His prostate was smaller and he said he had only been up three times the previous night to pass his urine. I reduced the dose of helmitol to 15 grains, four times a day, but still kept up prostatic massage. June 5, patient returned well pleased. The urine was entirely clear, neutral in reaction, and was passed at much longer intervals, only once at night. The prostate had further diminished in size, although not quite normal. The dose of helmitol was now reduced to 15 grains, morning and evening. June 9, the symptoms had all disappeared and he had slept for seven consecutive hours without awakening, something he had not done for three years. The helmitol was then discontinued, but the massage kept up for several more weeks. At that time the urine was neutral, perfectly clear, and contained no pus or mucus. July 2 he was discharged from treatment.

Case II.—Miss M. A. R., chorus girl, consulted me, April 14, 1903, complaining of considerable burning when passing her urine, which was quite frequent. On examination I found an acute gonorrhea which had invaded her urethra. I gave her a hot saline douche, painted the whole vagina with a 4-per-cent. protargol solution, and inserted a dry cotton tampon. Helmitol, 15 grains, was prescribed, four times daily, and she was instructed about her diet, etc. On the following day I repeated the treatment, and instructed her that on removing the tampon she should take a hot douche. This treatment was continued up to the ninth day, when the burning had entirely disappeared, though the discharge had not all ceased. The dose of helmitol was reduced to 15 grains, three times a day, and the vagina swabbed with a 6-per-cent. protargol solution. On the seventeenth day I discharged her as cured.

Case III.—Mrs. R. J. C., came to me with the following history: She was passing urine about every hour, had more or less tenesmus, and had a dull feeling over the pubes for the past six months. She was unable to void urine in my office, so I drew off about two ounces. It was very ammonical and filled with pus but no sugar or albumin. Treatment was begun by washing out her bladder with a ½-per-cent. solution of protargol, using about 11 ozs., and prescribing 15 grains of helmitol four times daily. She returned in two days without marked improvement. Treatment was continued. On her next visit, three days later, she stated that during the night while on the commode she felt as though she had passed a large lump of something, which she brought to me, and which, on examination, was found to be a mixture of blood, pus and mucus. I again washed out her bladder with a 1-per-cent. protargol solution and continued the helmitol. She called the following day and said she felt better than she had for over six months. Examination of the urine showed that the pus had diminished one-half. The tensemus had subsided entirely, and the interval between urinations had lengthened to about two hours. I kept up the original treatment for the next six weeks, and at the end of the fourth week the urine was entirely free from pus and the tenesmus had entirely disappeared.

Case IV.—Mrs. S. C. G., aged twenty-seven years, mother of four children. About two months before consulting me she had a miscarriage, and was confined to her bed about three weeks, during which time she was curetted. Directly after the operation she complained of frequent micturition and at the end of urination voided considerable blood and pus. She had consulted her regular family physician, who seemed to be unable to give her any relief, and sent her to me. On examination on June 13 I found the parts normal in appearance, except that the meatus urinarius was slightly inflamed. I catheterized her and drew off about 5 ounces of ammonical urine which contained considerable pus mixed with blood. I immediately washed out her bladder with a ½-per-cent. solution of protargol, prescribed 15 grains of helmitol, four times daily, and sent her home to bed. I called the next day and again washed out the bladder with a ½-per-cent. protargol solution and kept up the helmitol. This same procedure was repeated daily. Up to the fourth day there was no marked improvement, but on the fifth day the urine com-

menced to clear. I then increased the strength of the protargol solution to 1 per cent., and continued the helmitol. This treatment was continued for ten days more, when she came to my office. Examination showed the urine to be almost free from pus and blood. The helmitol was continued, but the irrigations stopped, and at the end of another week I discharged her cured.

Case V.—Mr. H. A. N., called at my office May 20, 1903, with the following history: Three weeks prior he had contracted gonorrhea and made a confident of one of his chums, who in turn advised him to get a patent preparation. This he had injected three times a day, and at the end of ten days the dischorge had ceased, but he noticed a peculiar dull pain over the pubes. On examination of his urine (two glass test) the first glass was very turbid, while the second was nearly as bad. He was passing urine every hour or so. His temperature was 101.2° F. I advised him to go home to bed, and prescribed 15 grains of helmitol four times a day, and ordered hot applications to be made over the pubes. On visiting him the next day I found his temperature 100.8° F.; the condition of the urine was about the same. Treatment was continued. On the following day the temperature was 99.2°; the pain had almost all gone, and the urine looked better although it still contained quite some pus. On the fourth day I washed out his bladder (glass catheter) with a 1-per-cent. solution of protargol. On the fifth day the urine was much clearer, and the bladder was washed out as before. On the sixth day the urine was entirely free from pus. Helmitol was continued, but the irrigations stopped. The patient continued taking the drug for fourteen days when his urine was normal and free from pus and has remained so.

Case VI.—E. R. L., thirty-two years old, had suffered with gonorrhea since June 3. On August 3 he complained of urinary tenesmus, and passed a very uncomfortable night, having to get up several times to urinate. On examination I found both portions of urine very turbid with traces of albumin. Helmitol, 15 grains, was prescribed four times daily. August 4, the urinary tenesmus and turbidity unchanged. August 5, urinary tenesmus not so marked, but still severe. August 6, treatment continued. Tenesmus at night about the same; urine still turbid, and of slightly acid reaction. August 7, urine slightly less turbid. August 8, urine as bad as on August 3, and on passing his water more or less pain in the urethra. August 9, urine slightly improved, and treatment kept up. August 10, urine looked better than on any day heretofore and showed no trace of albumin. August 11, patient complained of a slight chill, which, no doubt, was caused by sleeping with open window at night and a sudden rainstorm coming on. The urine was much improved, but there was a slight discharge from the urethra. Temperature normal. August 12, urine less turbid than on preceding day; urethral discharge still present. August 13, urine almost clear save for a few floating shreds. August 15, urine clear save a few shreds; slightly acid reaction. Tenesmus had entirely disappeared since the fourth day. Still a slight urethral discharge. The above treatment was continued until August 20, when the discharge had ceased entirely, the urine being perfect except a few shreds. Helmitol 15 grains four times a day was continued and I gave him some gelatin bougies containing one-half grain of protargol, to be inserted at night before retiring. This treatment was kept up until September 1, when all shreds had disappeared from the urine.

Case VII.—R. M. S., aged twenty-seven years, actor, called to see me May 5 with an acute anterior gonorrhea, this being his first experience. On examination I found the meatus highly inflamed and swollen and a very profuse discharge. He complained of an intense burning sensation in passing his urine and had very painful chordee four or five times during the day. I gave him a 1-per-cent. protargol solution to use in a hand syringe, and 15 grains of helmitol every four hours, and for the constant erections directed him to use ice cold ablutions. At his next visit, May 7, the discharge seemed to have increased more than in any of my former cases while using protargol hand injections, but I continued this treatment. The chordee was considerably better, and although the urine scalded some, this was not quite as severe as on his first visit. May 9, discharge reduced somewhat and not so thick and viscid. The burning had nearly subsided; the chordee had all disappeared. May 11, the discharge was of a seropurulent character. I increased the strength of the protargol injections to 1½-per-cent. and kept up the helmitol. May 14, the discharge was of almost watery consistency; no pain or discomfort of any kind. Treatment continued. May 18, the discharge had decreased a great deal, so I discontinued the protargol, and substituted 1½-per-cent. solution of sulphocarbolate of zinc injection. May 21, no more discharge seen since the afternoon of the day before. Helmitol was discontinued, but the zinc injection kept up. May 27, there being no discharge for nearly a week, and the patient having to fill a summer engagement out of town, I advised using the zinc injection for another week. He wrote to me two weeks later that there had been no more discharge and that he had drank beer and had seen no ill effects.

The Effect of Protoplasmic Poisons on Tryptic Digestion.—Solutions of trypsin, of a strength greater than that of .2 per cent., are according to R. KAUFMANN (Hoppe-Seyler's Zeitsch., Sept. 19, 1903) not affected by the action of toluol, chloroform, thymol and sodium fluoride, extending over a period of twenty-four hours. Weaker solutions of trypsin are affected, while those of a strength of .02 per cent. or less are rendered inert. The above antiseptics act toward bacteria in the same way as they act toward ferments. This indicates that there is apparently no essential difference between fermentative and bacterial action.

CHLOROFORM IN LABOR.*

BY EDWIN RICKETTS, M.D.,
OF CINCINNATI.

SHAKESPEARE expressed it well in saying,

"Not poppy, nor mandragora,
Nor all the drowsy syrups of the world,
Shall ever medicine thee to such sweet sleep."

Normal labors are surgical procedures, and should be so considered from the beginning of the first stage until convalescence has been well established. The importance of carrying out the strictest phophylactic measures on diet, catharsis and cleanliness is better understood and more fully appreciated. The importance of the conservation of maternal force during the puerperal state—and especially during delivery—has not been sufficiently emphasized.

Chloroform, during the latter, is the remedy that is faithfully to conserve the energy of your patient. This truly surgical process—labor—that is traumatically imposed, is the only one of the list that has been shorn of its dignity. This comes from its frequency, and for the low ebb of midwife commercialism that is indulged in by too many physicians that are doing a good amount of obstetrical work. We have too many would-be first-class obstetricians who advise to "let nature take its course," getting in in time to order the cord tied, cut and dressed. If the patient goes along all right, with him it is well enough; but if she does not, and recovers after a siege of sepsis, or goes down to death, he is content to try and excuse himself on the ground of dispensation of Providence. It is not for the cases that have made sheer recoveries that he should be praised, but it is for the death list, and the list of slow and tedious recoveries that he should be criticized.

These are the chaps in medicine that antagonize the administration of chloroform in labor; always trying to show the extreme danger in the use of the drug. The teachings of the modern text-books on obstetrics is rather against the use of chloroform in labor. The results of those that have long used it, and the statistics recently given by J. C. Reeves, of Dayton, Ohio (but one authentic death); goes to prove that this is unwise teaching, even to undergraduates and young practitioners. Lacerations following childbirth, along with contusions of the urinary bladder, uterine and vaginal walls, pelvic floor—too often ending in sepsis and pus—are far more *frequent following* so-called *normal labors* than are those who have been carefully delivered under chloroform.

For the reason that the Hyderabad and similar commissions have not settled some scientific points as to the modus operandi of the drug is no contraindication for its use. It conserves her strength; it annihilates that pain that none but the parturient woman can intelligently describe. It does not increase the risk of post-partum hemorrhage. It lessens the risks of the soft tissues being lacerated. It does not add to fetal mortality. The Biblical objections are myths, and they are answered by another which says, "Adam was put into a deep sleep before the rib was removed for the making of the first woman." Today, as then, man is the first to demand prompt relief from trivial pain, and the first objector for any extended anesthesia to women in labor.

Chloroform was first used in Edinburgh in 1847 by Sir Jas. Y. Simpson. He says it should be used "to diminish and annul the physical pains that accompany the passage of the child's head through the pelvic cavity and outlets." That the reputed failures and misadventures are attributable to two causes. First, impurity; second, in not giving it in *sufficiently large* and *rapid doses.* He says, "For operative purposes in midwifery, the anesthetic state should be as complete and profound as when it is induced for operative purposes in surgery." After the first full dose, a few inhalations before or with each returning uterine contraction are generally sufficient. The state of anesthesia should be made more deep as the head passes the perineum and vulva. His rules were: (1) Begin the inhalation of chloroform when the patient *complains* of *much pain.* This is generally toward the end of the first stage. (2) *Always inculcate perfect quietness around the patient, particularly when commencing to give the chloroform.* (3) Only give it during the pains, and withdraw it during the intervals.

Exceptions.—Give a whiff of the chloroform also during the intervals when the pains are very severe, and the patient continues complaining of them. Give small doses, or only repeat them every second or third pain when the chloroform affects the action of the heart and uterus. *These cases are very rare.*

(4) When given during this stage, the anesthesia need not be deep, unless the suffering be great or the system of anesthesia disagreeable. (5) As the second stage progresses make the anesthesia so complete as to destroy all sensibility. (6) Do not allow the urinary bladder to become overdistended. (7) *Do not restrain the patient to one position.* (8) Be sure to remove the chloroform as soon as the child is born. (9) Do not awake the patient artificially.

Notwithstanding these rules were laid down by Simpson fifty-six years ago—who was the first to administer chloroform in labor and its first and greatest champion—chloroform in labor has been sadly neglected, and without cause. As Simpson says, if the patient suffers, relieve her; no matter what stage of labor she is in. If the pain is continuous, the chloroform should be administered to the point of relief, which should be maintained.

The exhausted pregnant uterus for its unsuccessful efforts at delivery in a prolonged labor may be the cause of post-partum hemorrhage. After this exhaustion, with the delivery to be completed under chloroform, after the head has been resting on the perineum for hours, and for

* Read before the Cincinnati Academy of Medicine.

any post-partum hemorrhage, the remedy has been accredited as the cause. Abdominal surgery has thrown much convincing evidence on this point. Many cases in which the abdomen has been opened for the removal of a fibroid, a cystoma, or appendix—at the fourth, fifth, sixth, seventh or eighth month, under surgical anesthesia the *strong uterine contractions have been observed* by *operator* and *assistants*. Recovery of these *patients takes place* and *with no precipitation of labor for the administration of chloroform.*

Impurity and expense of chloroform is hardly to be considered at this day, for the reason that we have many reliable manufacturing firms putting out the drug in its purest form, and at reasonable prices.

Simpson says that no special kind of inhaler or instrument is necessary for its exhibition. "A little of the liquid diffused upon the interior of a hollow-shaped sponge, or a pocket handkerchief, or a piece of linen, or paper, and held over the mouth and nostrils so as to be fully inhaled, generally suffices in about a minute or two to produce the desired effect.

Whatever may be used for holding the chloroform, it should never be allowed to rest on the patient's face. It should be held in the hand and the anesthetic frequently replenished on the inner surface in five to ten-drop lots of the drug, and held to the side of the patient's face so that none of the chloroform can come in contact with the eyes. With this frequent exposure of the patient's face, you can better regulate the intelligent administration of the drug. Before beginning the administration of the drug, observe the rule of Simpson of *exacting quietude;* gaining the confidence of the patient by assuring her that all is to go well. Never force the drug on to any patient. Show and explain to her how to breathe it in slowly, until she is accustomed to the odor, and especially as to its early effects. Assure her from time to time that she is to be relieved of the pain. Is not to know when the child is born, but that she is to be able *to reply to any questions that you must be sure to ask.* This is to reassure her more than anything else you can say. Do not be in a hurry to begin. It must be quietly, having the patient begin by inhaling in a shallow manner (never beginning by deep inhalation) accustoming the taste, smell and effects to the patient. Tongue forceps are an abomination; while the annointing of the face is an unnecessary inconvenience, and in both instances are alarming to the patient—things to be positively avoided. Deep inspiration is seldom necessary with the proper management of the case; neither is the previous administration of morphine or whisky necessary.

The covering of the face with a napkin or handkerchief on which is dropped the chloroform is to be avoided, for the reason that the face should not be continuously obscured from the physician.

Fold the napkin or handkerchief, holding the same in the hollow of the left hand. In taking the hand from over the nostrils and mouth—for the dropping of the chloroform on the cloth—the patient is sure of alternating intervals of inhalations *of air alone to be followed by chloroform admixed with air.* With the cloth in the hand, the facial expression with its color, pupils, breathing, temperature of the nose, ears and face are easily and more intelligently kept under observation. The pulse and respiration are to be intelligently observed.

Pulmonary tuberculosis, *with any of the heart lesions, diabetes or albuminuria are not contraindications for the use of chloroform.* In some instances it has proven a prophylactic remedy of no mean degree in puerperal convulsions.

The tendency of the day is toward numerous complicated anesthetic outfits for the administration of chloroform, but the simple rules, with the simpler means, as suggested by Simpson, have not been improved upon.

In the administration of chloroform in labor the tendency is to use from four to six times as much as is necessary. The same criticism stands good in the general use of chloroform. In quite an extensive use of chloroform in labor, I have never found it necessary to resort to any of the cardiac or general stimulants. On the other hand, I have seen a weak pulse grow strong by its use; a chaotic condition of the household changed to quietness and confidence for the artificially induced sleep. For this there was

> "No danger in what show of death it made,
> More than the locking up the spirits a time,
> To be more fresh for the reviving."

MEDICAL PROGRESS.

MEDICINE.

Internal Administration of Tuberculous Antitoxin.—The internal administration of various antitoxins has been tried at various times with more or less success. Roncagliolo claims to have increased the antitoxic power of the serum of the patients which he treated by this means and moreover noticed an encouraging therapeutic effect. F. FIGARI (Berl. klin. Woch., Jan. 18, 1904) has lately made some investigations for the purpose of determining whether the component parts of the blood of animals immunized against tuberculosis contained antitoxic substances and whether these, when administered internally, would afford a resistance against tuberculous toxins. Before and after the experiment he determined the agglutinating powers of the sera and their resisting powers against a lethal dose of tuberculin. The difficulty of providing fresh material was overcome by drying the blood of immunized animals and then reducing it to powder form. The experimental animals were guinea-pigs, to which he gave three grams of this powder daily, mixed with their food. The results obtained were as follows: The sera, after twenty-five days, manifested an agglutinating power of 1:5 in twenty-four hours. After fifty-four days of treatment, the relation was 1:12; and in eighty-five days, 1:25. In the latter instance the agglutination was 1:10 even after six hours. No

agglutinating phenomena were present in the sera of any of these animals previously. The antitoxic relations were as follows: After eighty-five days a lethal dose of tuberculin was injected into all the animals. About one-half remained alive for thirty-six hours, while the control animals died after twelve to sixteen hours. The remaining animals all survived the injection. The powder was also given to one of the author's patients. For eighty days he was given four grams daily with a noticeable improvement at the end of that time. The gain in weight amounted to almost 12 pounds, and the agglutinating power of the serum rose from 1:10 to 1:50. These experiments will be continued.

Etiology of Gout and Its Treatment.—The uric acid diathesis has long been considered to play an important rôle in the production of gout. Numerous authors have described an accompanying form of dyspepsia, and FALKENSTEIN (Berl. klin. Woch., Jan. 18, 1904), as the result of these observations and his own, that the cause of gout must be sought in the stomach and that a diseased process involves the glands of the fundus which secrete hydrochloric acid. The main point in his method of treatment is the administration in large doses of hydrochloric acid, from 10 to 20 drops in two glasses of carbonated water three times daily. For the acute attacks he prefers aspirin, as it does not interfere with free perspiration. Opium is not recommended as it inhibits secretion. Colchicum he believes of comparatively little value, as it merely alleviates the attack without affecting the retention of the uric acid. The alkaline waters are also contraindicated, as they neutralize the free hydrochloric acid in the stomach, which is already diminished in amount. As for thermal treatment, he has always found dry heat of greater value in local applications than moist, and ice is apt to exert a harmful influence. Sugar is entirely contraindicated; the diet should be moderate and exclude nucleic substances. Alcohol is also contraindicated. The main point made by the author is the administration in all cases of sufficiently large amounts of hydrochloric acid.

SURGERY.

Diagnosis and Treatment of Intussusception.—Acute intussusception is the most common variety of intestinal obstruction in infants and forms about one-third of all cases of acute obstruction. H. ROTH (Med. Rec., Dec. 19, 1903) has reviewed the literature upon the subject and reports four cases which have recently come under his care. The importance of an early diagnosis is urged, and since the symptoms associated with this disease are usually characteristic there ought to be few failures in recognizing it. The disease usually begins suddenly and, as a rule, in children in previously healthy condition. The first and most important symptom is pain. This is usually paroxysmal and colicky in nature. Soon after the appearance of pain, vomiting occurs at first at long and later at shorter intervals, and may become projectile in character. With the onset of pain a marked change in the appearance of the child will be noticed. It rapidly passes into a condition of shock with anxious expression of the face, pale skin, rapid and feeble pulse, the skin may be covered by cold perspiration and the respirations may be shallow. This appearance of illness is of great diagnostic value for the child, which a few hours before was in perfect health. Several hours later there may be a discharge of bloody mucus, but this may not appear till the finger is inserted and withdrawn. Tenesmus may occur later, especially when the tip of the intussusception can be felt per rectum. In the early part of the disease there is no rigidity of the abdominal wall, and during the paroxysms of pain we may feel a tumor or fulness, especially in the right iliac fossa. If the case is allowed to proceed the picture soon changes by the addition of symptoms referable to the gangrene and peritoneal sepsis which rapidly appear. It is important, therefore, that the diagnosis should be made at an early hour and treatment instituted. The treatment of the disease in former years was principally mechanical, by injections and inflation. The mortality from this method was about 75 per cent. During recent years operative treatment has come more into vogue, and with early surgical interference the recoveries have greatly increased. All authorities are now agreed that the condition should be likened unto a strangulated hernia and that mechanical means of relief should not be persisted in, but that a laparotomy should always be done within the first few hours. Before mechanical means are attempted, furthermore, the patient should be prepared for operation and anesthetized so that surgical interference may at once proceed, if other methods fail.

Excision of Tuberculous Mass from Liver.—Cases in which portions of the great abdominal viscera are cut away possess a great deal of interest, partly because of the difficulty of the operation and of the importance of the technic. This case, reported by ROBERT M. ROME (Ann. of Surg., Jan., 1904), is briefly outlined as follows: Patient was a woman, forty-two years old, who had never been seriously sick but who had been "bilious" all her life. The family history was good, save that her mother had suffered from some obscure liver trouble. In the middle of August, 1902, she was suddenly seized with severe pain in the right lumbar region which lasted twenty-four hours, after which it decreased in violence, but the part remained tender. She was obliged, although able to get about, to favor the right side, because of a pulling pain there, and she was unable to sleep or rest upon that side. When walking, she bent somewhat to the right and stooped forward. Six weeks after the onset, she was operated upon; an incision being made over the site of a slight tumor which had developed at a point midway between the cartilage of the tenth rib and the crest of the ilium. The intestines were adherent to the liver, and after these organs had been separated, a tumor in the right lower lobe adherent to the parietal peritoneum was probable. It was apparent that it could be removed by cuneate section. The sutures were introduced half an inch apart and half an inch from the margin of the triangle. After a number had been inserted, the wedge containing the growth was cut away with scissors. The tumor removed was about the size of a goose egg and, despite the considerable area excised, a speedy tying of these sutures satisfactorily stopped all hemorrhage. The abdominal incision was closed without drainage. A microscopical investigation revealed a typical tubercle. Dr. Keen, in reviewing the surgical conditions of the liver, mentions (1) herniated left lobe, 5 cases; (2) syphiloma, 12 cases; (3) carcinoma, 17 cases; (4) angiofibroma, 1 case; (5) cavernoma, 1 case; (6) endothelioma, 1 case; (7) angioma, 4 cases; (8) adenoma, 7 cases; (9) sarcoma, 5 cases; (10) cystoma, 1 case; (11) small calculi, 1 case; (12) hydatid cysts, 20 cases. It is thus seen that the case above reported adds another tumor to Keen's list.

Pathology and Treatment of Recent Fractures of the Patella.—So much has been said for and against the operative treatment of this frequent condition that a résumé of the present status of the literature is of interest. S. C. PLUMMER (Ann. of Surg., Jan., 1904) believes the following to be a fair statement of the present status of the question: (1) Operative treatment

should never be undertaken except under the best aseptic conditions; (2) presupposing these to exist, not every case should be subjected to operation, but only those in healthy patients of suitable age with at least half an inch of separation of the fragments and lateral tears which compromise the "reserve" extension apparatus, or in patients following arduous occupations; (3) the operative treatment fulfils all the indications for treatment in a manner which the non-operative method can only partially receive, but good functional results follow the non-operative treatment as a rule; (4) early massage in all cases favors the early and complete restoration of function of the joint and should be used in all cases; (5) if operative treatment is employed, the open arthrotomy should be used; (6) absorbable suture material applied to the soft parts is sufficient in nearly every case.

Demonstration of the McGraw Ligature.—A great deal has been written about this method of intestinal technic. It was devised by Theodore McGraw twelve years ago, but was not extensively used until very recently, because of the popularity of the Murphy button. Continued reports, however, from all over the world, show that this popular mechanical device is not without very grave disqualifying objections. A. J. OCHSNER (Ann. of Surg., January, 1904) reports a series of 40 cases of gastro-enterostomy in which he made use of the elastic ligature. The effect on the patient was no greater than that following the use of the Murphy button. In all these cases there had been no peritonitis. Three had died, one two weeks after the operation from exhaustion, another in three weeks and another in six weeks. So simple is the technic of this ligature that he had recently used it in all cases in which there appeared to be even the slightest pyloric obstruction. Theoretically, Ochsner believes that all mechanical means must ultimately be abandoned and that surgeons must do all of these operations with the needle and thread. Practically, however, he had tried nothing which had been as satisfactory for creating gastro-enterostomy or entero-enterostomy in suitable cases as this method of elastic ligature.

Treatment of Typhoid Perforation.—This much-dreaded complication, which has a mortality rate of over 99.9 per cent., according to accredited authorities, is being gradually stripped of its deadliness through surgical intervention. R. G. LE CONTE (Ann. of Surg., Jan., 1904) reports three consecutive successful cases operated upon during the last month at the Pennsylvania Hospital. In the first two the recovery was permanent, in the third, recovery from the primary perforation was assured by operation, but the patient died ten days later from a secondary perforation. Since the symptoms indicative of perforation are as yet by no means understood, a close review of these cases must be of great value. In general the histories were as follows: *Case I.*—Male, Russian Jew, thirty-eight years old, suffering from an attack of moderate severity; temperature on admission 102.2° F. Twelve days after admission, during which time the case had presented no symptoms of an unusual character, temperature touched normal. Convalescence was uninterrupted, and he left the hospital fifty-six days after the onset of the attack. He was readmitted to the medical ward under the care of Dr. Stengel three weeks later. The temperature was 103.3° F., pulse 112, respiration 38, tongue coated white, edges and tip red, very tremulous, a few râles posteriorly on the right side of the chest, spleen enlarged and tender. Abdomen rounded, soft, flabby, slightly tender; rose spots; urine, slight trace of albumin, hyaline and granular casts. Widal test not positive. It was a clear case of recurrence. On the eighth day after admission he complained of pain in the abdomen, which for twelve hours was not severe. At about the tenth hour of pain, the temperature was 101.2° F., four hours later it had fallen to 97.8° F., pulse 100; an hour and a half later there was profuse sweating with shallow respiration and anxious expression. At that time temperature was 97.6° F., pulse 140, respiration 40; abdomen tympanitic, rigid and tender, especially on the right side. Three hours later, under ether, a three-inch incision was made in the right semilunar line below the umbilicus. This was three hours and a half after the first evidence of collapse, six hours and a half after the onset of severe pain and 17 hours from the first pain noticed. Some cloudy non-odorous fluid escaped. The cecum was brought out and eight inches up the ileum a large inflamed Peyer's patch was found with a small perforation in the center. The pelvis was thrown downward by tilting of the table, and the pelvic and peritoneal cavity irrigated with salt solution. It was mopped dry, rubber drainage inserted and five wicks of gauze run between the coils. Temperature after operation, 98.2° F., pulse 128, respiration 40. The temperature reached normal eight days after operation, and convalescence was uninterrupted. *Case II.*—The Widal test was positive. On the sixteenth day immediately after a bath, he complained of sharp pain in the right side. There was no vomiting. Leucocytosis, 9,600; pain and tenderness increased. An hour later temperature 100° F., pulse 110, respiration 24. Five hours after onset of pain he was operated upon. One foot from the cecum a large necrotic ulcer was seen with pin-head sized perforation; no attempt at walling off was seen. The hole was inverted. A wet toilet of the peritoneum was done; the reaction and subsequent convalescence was normal. Both these cases, in the opinion of the author, probably owed their recovery to the fact that the symptoms they presented were of an almost classic character. In neither case was any attempt evidenced of an effort to "wall off." In both cases the perforated area seemed to be in contact with the parietal peritoneum. This is much more sensitive than the visceral sheet and may be the reason why some cases present practical symptoms while others do not. The presence of omentum covering the perforation might in itself be sufficient to delay the advent of symptoms for a fatal period.

Removal of the Prostate and of the Prostatic Urethra for Senile Enlargement.—In this country the perineal route has been brought to such a stage of perfection that it is of particular interest to note what a representative operator of England has to say upon the suprapubic operation. B. G. A. MOYNIHAN (Ann. of Surg., Jan., 1904) records the history of 12 cases and details the technic which took birth virtually in an operative accident. While shelling out the prostate of a case some two years ago, he unintentionally removed the entire gland together with the prostatic urethra. He was naturally alarmed at the prospect before the man, but to his surprise convalescence and recovery of function were complete. The technic is as follows: The bladder is washed out with one per cent. carbolic acid and filled with ten or twelve ounces of the same solution. A rubber glove is worn on the right hand, so that after the rectal manipulations the removal of the glove will leave a clean hand. The bladder is opened above the pubes. Its walls are then made fast by a heavy silk ligature to the abdominal incision. This prevents tearing of the viscus. These are left for three days. The trigone is then incised immediately behind the internal meatus. The prostate is then steadied with the right finger in the rectum, the larger the organ the easier the stripping. The mucous membrane is torn

freely. The anterior portion of the prostatic urethra at its junction with the membranous portion is torn through after the prostate is elsewhere entirely free. A catheter is passed and the bladder is freely flushed with hot salt solution. On the fourth day and on each day thereafter a catheter is passed, and the bladder washed. On the seventh day the catheter is tied in place. If the patient be feeble and old, it is desirable to allow him to get up before the end of the first week. The urine ceases to pass through the wound about the twentieth day. In about a month patient is usually passing urine spontaneously at natural intervals without discomfort or difficulty. Occasionally, where the cystitis was extremely severe and the urine foul, after the irrigation of the bladder, a stream of oxygen was passed through the cavity, the suprapubic wound having been capped with an impervious cover which allowed but a small leakage of the gas. In this way, the whole cavity was thoroughly oxyginated and distended, and healing was certainly hastened. Of the 12 cases operated upon, one died.

Amputation at the Hip-joint for Sarcoma of the Femur.—The question of the curability of this condition by operation is one that is still more or less unsettled. From personal observation, W. B. COLEY (Am. Med., Jan. 9, 1904) believes that sarcoma in this locality represents one of the most malignant forms of tumor with which we have to deal. He reports five cases of sarcoma of the femur treated by hip-joint amputation, of which two died within a year, one lived two years, one was not traced, and the last, a recent case, is the only one known to be alive. Of four patients treated by amputation just below the trochanter, one with sarcoma of the femur died four months afterward of lung metastases, the second had a local recurrence at the end of fifteen months, and after disarticulation had been done, lived two years longer; the third, with melanotic sarcoma of the skin of the thigh, died four months later of general involvement; the fourth, a recurrence in the thigh after primary sarcoma in the tarsus, is well six years after the operation. The author believes that hip-joint amputation is to be preferred to resection or to amputation through the shaft. Recurrence being almost the invariable rule after all methods of treatment, a thorough course of mixed toxine treatment after operation, as a prophylactic measure, offers the best hope of a permanent cure.

Obstruction of the Large Gut.—Definite obstructions, due to adhesions which arise from the chronic irritation of inspissated feces, are a very prolific source of augmenting the constipated condition. W. ARBUTHNOT LANE (Lancet, Jan. 2, 1904) states that he discovered the existence of this condition accidentally while operating upon cases of supposed nephrolithiasis. The relief of the pain and the constipation in these cases were evidently due to the extensive separation of the colon from the kidney. When fecal matter accumulates in the intestines, there are two portions which are particularly likely to become inflamed. These are the cecum and ascending colon and the sigmoid. In consequence of this irritation the walls become inflamed to a small degree and peritoneal adhesions form between it and the abdominal wall. These adhesions oppose the downward and inward displacement of the loaded cecum. Gradually they thicken and in time suffice to support the overloaded bowel in the erect position. The adhesions which bind down the cecum externally also fix the proximal portion of the appendix. This may very often lead to attacks of appendicitis. The formation of adhesions between the cecum not alone supports the overloaded organ but also prevents its displacement upward and inward and the formation of volvulus. In spite of the thorough division of such bands of adhesion and the complete liberation of the gut, a large percentage of cases will recur. It being probable that the injury arising from pain and autoinfection from decomposition does greater harm to the individual than any good he may derive from absorption of foodstuffs from the part, Lane determined to exclude the greater part of the large bowel from the intestinal path. He therefore connected the ileum with the cecum by making a very free lateral anastomosis between the lower limit of the ileum and the upper part of the rectum, or the sigmoid, if the latter were not accessible. The results of such treatment have been very satisfactory, the pain and tenderness having disappeared, the cachexia and inactivity resulting from the absorption of ptomains having likewise passed away. The only objection to lateral anastomosis is that the presence of any large quantity of solid fecal matter near the opening in the large bowel may cause feces to pass on into the cecum. As a guard against this, he now divided the ileum closing its distal aperture, making its proximal section open into the lower end of the large bowel, thus rendering it impossible for any material to enter the cecum.

Hour-glass Stomach.—Hour-glass stomach may arise from three separate causes—chronic gastric ulcer, perigastritis due to adhesions, and cancer. The deformity in itself constitutes a distinct disease, which is associated with a peculiar train of symptoms. A. W. MAYO ROBSON (Lancet, Jan. 2, 1904) states that the name "hour-glass stomach" was adopted long ago when the disease was thought always to be congenital and before it was recognized that the stomach might be divided into more than two cavities. He cites 23 cases which at operation all showed distinctively that hour-glass stomach owes its origin to definite organic disease. Doubtless very rarely it may exist as a congenital malformation, just as narrowings may be found at the pylorus, in the intestine or in the rectum. In an experience of over 1,000 operations on the upper abdomen, however, in which the stomach was seen and examined, and of about 400 which have been executed directly upon the stomach itself, he has not met with a single case of congenital hour-glass constriction. The symptoms for a time depend entirely on the cause, whether that be ulcer, cancer or perigastritis, but ultimately, when the deformity has developed, the signs are more or less distinct. The cause can usually be diagnosed without much difficulty, and in the majority of cases the effect can be as positively proven. One of the most characteristic signs of hour-glass stomach is the following: If the stomach has been washed out until the returning fluid is absolutely clear, there flows suddenly from the tube a foul stream of material, the supposition of hour-glass stomach is pretty definitely substantiated. Wolfer showed that on washing out the stomach the fluid might entirely disappear, it having passed through the second pouch. The distinctiveness of the symptoms naturally depends upon the position of the contraction. In the greater number of the cases cited, the constriction was located four inches from the pylorus, and in nearly all the cases the proximal cavity has been larger, giving rise to the well-known symptoms of dilatation of the stomach due to pyloric stenosis. Frequently the second cavity is of minor importance, and in such cases the condition is usually not diagnosed, the operation being undertaken simply for relief of the dilatation and the ulcer. The treatment of the condition must be purely surgical, and the technic cannot be decided upon until after the abdomen is opened. When the stricture is centrally located, gastroplasty is the most desirable procedure. This occasionally may be compounded with pyloroplasty. Gas-

troplasty may be performed either by means of simple sutures or by suturing over the largest size bone button, the important point being to make a sufficiently large opening. Dr. Jos. A. Blake has recently suggested a modification of gastrogastrotomy after the method employed by Finney in pyloroplasty. The technic served well in one case. It is of the utmost importance that drainage be perfect. In two cases of carcinoma in which the stomach was removed almost in toto, one case lived for sixteen months and the other is still progressing favorably, although the operation was done three years ago. Of the 23 cases cited, 19 were simple and 4 were malignant. Of the simple cases, 11 were operated upon by gastroplasty alone and all the patients recovered.

An Improved Hemostatic Bandage.—As far back as the sixteenth century, this matter was receiving attention. Ambrose Pare is accredited with having devised the bandage recently popularized by Esmarch. SIEGFRIED SPIEGEL (Zentralbl. f. Chir., Dec. 26, 1903) describes an ingenious apparatus by which the amount of pressure exercised upon the extremity can be definitely measured. This, however, is not its only advantage. It is well known that with the average elastic roller bandage, the method of liberation is extremely irregular; the pressure usually being taken off with a snap which places an undesirable and sudden pressure upon the recently ligated vessels. In this apparatus the bandage passes around the extremity but once and the pressure is relieved by a thumbscrew. The material of which it is made is not elastic. In the latter class of bandages there are only two conditions possible—either the blood is entirely shut off, or it is turned loose with a rush. The new instrument is shown in an excellent engraving.

Anastomosis for the Vas Deferens.—Suture of this important duct is of great interest. A successful case is reported by J. L. THOMAS (Brit. Med. Jour., Jan. 2, 1904). The case was one of bilateral severance of the vas by a knife. An oblique incision was made over the course of the inguinal canal, and the two severed ends which were found to be separated about half an inch, were brought together. The testicular end of the vas was cut obliquely by means of a cataract knife. The urethral end was split longitudinally for one inch. This free end was further divided for about half an inch from its extremity so as to provide two tails of equal size. Each tail consisted of one-half of the longitudinally split vas deferens. The obliquely cut free end of the testicular portion of the vas was placed with its lumen in contact with that of the testicular portion, and was fixed by means of fine, silk sutures as closely applied as possible. The two tails were then enveloped around the testicular portion and sutured. Layers of fascia were subsequently wrapped around the anastomosed vas and fixed with sutures. The practicability of the above method of anastomosis can be demonstrated on the cadaver by injecting fluid along its lumen when it will be found that the joint is tight. This procedure is easier of application than end to end anastomosis or any form of implantation, and is a valuable step forward in conservative surgery. The article is well illustrated by diagrams.

PHYSIOLOGY.

Observations on the Functions of the Spleen.—In the normal animal, according to T. LEWIS (Jour. of Anat. and Physiol., Jan. 1904), the function of hemolysis is carried on by the spleen, but chiefly by other members of the hemolymph series of organs. There is a proliferation of leucocytes in all glands of the series, and a limited destruction of the same in hemal and hemal lymphatic glands. In the latter there is also a destruction of polymorphonuclear cells and coarsely granular eosinophiles. The processes are not widespread. A disintegration of erythrocytes outside the phagocytes takes place, in all probability by a ferment action. Appearances are seen which suggest the view of ingestion by leucocytes of the disintegrated particles of erythrocytes, with the formation of coarsely granular eosinophile cells. There is evidence that all the leucocytes are derived from lymphocytes, and that phagocytes have their origin in hemolymph organs, from the endothelial cells lining the sinuses, capsule, trabeculæ and reticulum.

The Rapidity of the Nervous Impulse in Tall and Short Individuals.—The question as to whether the stature of the individual and the corresponding difference in the length of homologous nerves has or has not any influence on the rapidity of the transmission of the nervous impulse, has been decided by N. H. ALCOCK (Proc. of the Royal Soc., Dec. 19, 1903), who finds that per unit length, the rate of the nervous impulse is the same in all individuals examined. It takes longer, therefore, for the nerve impulse to traverse the limb nerves in a tall man than in a short one. The difference is .001 second approximately. It is also found that the nodes of Ranvier exercise no influence on the rate of impulse.

The Fat-assimilating Function of the Human Placenta.—It has been proved, according to J. HOFBAUER (Hoppe-Seyler's Zeitsch., Sept. 19, 1903) that the nutrition and growth of the embryo are not dependent only on the processes of diffusion through the placenta. Harvey was the first to consider the placenta a digestive organ. Histological investigations enable the author to conclude that with respect to the absorption of fat, the villi of the chorionic membrane, both in the structure and distribution of their element, bear many resemblances to corresponding structures in the mucous membrane of the intestine. The uses of the fat thus assimilated by the placenta may, in the embryo, be manifold. Thus it may build up the fatty tissue as such, may serve in the formation of numerous other tissue elements, and by its own oxidation, may spare the consumption of the proteids.

Chemistry of Blood-Coagulation.—A few new facts concerning the complicated process of blood-coagulation have been discovered by I. MORAWITZ (Deutsch. Arch. f. klin. Med., Vol. 79, No. 1 and 2). It appears that the fibrin-ferment necessary for clotting, results from the interaction of three substances: a calcium salt, thrombogen, and thrombokinase. The latter itself behaves in many ways like a ferment, since heat and putrefaction destroy it rapidly, and since non-dialyzable and precipitated by alcohol. Thrombogen occurs only in blood and lymph, but thrombokinase can be obtained from all organs. In the circulating plasma neither one of these substances is present in solution; they are only set free after the blood has left the vessels and the thrombogen appears first. During normal clotting only part of the thrombogen is rendered active, hence even the serum contains this substance, which will become active in the presence of kinase and lime.

Influence of Blood-pressure on Blood Composition.—The exhange of fluids between blood and tissues occurs in the capillary system. Here the fluid leaves the vessels, circulates in the interstices as lymph and then is absorbed directly into the venous radicals or enters the veins indirectly through the lymphatics. Increasing or diminishing the blood-pressure will have a decided influence upon this exchange of fluids, as can be seen by comparing the concentration of arterial and venous blood after injections of suprarenin and chloralhydrate. The number of red blood cells in normal, arterial and venous blood is about the same, but when O. HESS (Deutsch. Arch. f. klin. Med., Vol. 79,

Nos. 1 and 2) injected suprarenin into the femoral artery of a dog, the venous blood contained up to 25 per cent. more erythrocytes, while after chloralhydrate there was a decrease to the same degree which can be traced as far as the right heart. The hemoglobin shows the same variations. The fact that arterial blood always remains the same, points to a regulating mechanism within the body which is to be found in the lungs. The softness and elasticity of the tissues of this organ, the distribution of the capillaries and the abundance of lymphatics permit of an absorption of lymph in the case of increased arterial pressure and a secretion of plasma where the pressure is subnormal. The lungs are eminently fitted for this function since the vascular tonus here is independent of that of the systemic blood-vessels. The liver probably also assists in making up the loss of fluid. The variations are only noticed after considerable changes in pressure of short duration; where the blood-pressure is affected over a long period, the entire vascular system will gradually adapt itself so that differences between arterial and venous blood are no longer noticed. After venesection, the regulating mechanism apparently fails, for a diminution of red cells occurs in both arterial and venous systems.

THERAPEUTICS.

Relations between Physiological Action and Chemical Constitution.—A careful study of the relationship between the chemical constitution of phenol and its derivatives, and the effects produced by their action upon the nervous system, has been made by S. BAGLIONI (Zeitsch. f. Allg. Physiol., Vol. 3, No. 3). He divides these substances up into four groups with their effects, as follows: (1) The ability of phenol to produce clonic convulsions and to increase the excitability of the motor mechanisms of the spinal cord, is also possessed by its salts (phenolnatrium), its homologues (α- and β-cresol), the bivalent and trivalent phenols (pyrocatechin, resorcin, hydrochinon, pyrogallol, phloroglucin), and the naphthols. They all have a benzol-nucleus, or two condensed benzol nuclei, to which are bound from one to three hydroxyl groups, with or without the addition of oxygen. The addition of oxygen or hydroxyl groups reduces the activity; thus: phloroglucin and pyrogallol act only in larger doses. All these substances possess in common the property of producing paralysis when administered in large doses. The addition of a member of the coal-gas series (CH_2) does not diminish the capacity to produce clonic convulsions (cresol), but the presence of several members of this series (CH_3 and C_3H_7) inhibits it entirely (thymol), and in this case there appears only central paralysis, which is to be attributed to the methyl and propyl derivatives. (2) In the second group are substances closely related to the first, consisting of benzol toluol, xylol, anilin, anisol, phenetol, guaiacol and veratrol. The first manifestation of their activity is not excitation but paralysis, which last for a longer or a shorter time, to be followed by clonic convulsions. Of these substances, benzol, toluol, xylol and perhaps also anilin have this in common, namely, the paralysis is not complete, they have in their benzol nucleus no hydroxyl group and have many chemical likenesses among them. Since it has been shown that in the organism benzol is oxidized into phenol, the hypothesis is suggested that this group can elicit clonic convulsions only when a hydrogen atom of its benzol-ring is oxidized into a hydroxyl group. Anisol, phenetol, guaiacol and veratrol have these characteristics in common: the paralysis is profound and of long duration; they are all esters of phenol or pyrocatechin, and they are made up of a phenol (or pyrocatechin) remnant and a methyl alcohol (or ethyl alcohol) remnant. The more distinct paralytic effect is thus understood, since alcohol is a marked narcotic, and the paralysis increases *pari passu* with the addition of alcohol groups. (3) The third group related to phenol are happily characterized by the fact that they elicit paralytic phenomena in the nervous system. They have completely lost the property of producing clonic convulsions. To this group belong chiefly acetanilid, phenylhydrazin, benzylalcohol, benzylaldehyde, acetophone, benzoic acid and salicylic acid. They produce paralytic effects of varying degree, and may be differentiated by means of various characteristics. In the first division of this group belong benzyl-alcohol, benzaldehyde, acetophenone, and benzoic acid. They are all built up from a benzol-nucleus, to which a methyl side-chain is attached. This side-chain is not easily split from the benzol nucleus, but it is easily oxidized to CO_2H, the more oxygen present in the side-chain, the less is the paralytic effect. Thus benzyl-alcohol is a powerful depressant, while still less so is benzaldehyde and next benzoic acid. From these facts one can infer that the narcotic power depends upon the ability to draw oxygen out of the biogen molecules of the nerve-centers, hence upon the power of reduction possessed by these substances. It is well known that benzyl-alcohol and benzaldehyde are oxidized in the body into benzoic acid. (4) The fourth group is made up of the aromatic compounds, which the author has proved to be inert with respect to the central nervous system. Here belong nitrobenzol, tyrosin, hippuric acid, gallic acid, benzidin and pyridin. In this group it is seen that the entrance of CO_2H into the benzol ring inhibits the capacity to produce clonic convulsions, whether the CO_2H is bound directly (gallic acid) or indirectly (tyrosin, hippuric acid). NO_2 is also capable of doing this (nitrobenzol). If the benzol ring is changed by the substitution of an N for CH, physiological action is abolished (pyridin).

Treatment of Gastric Ulcer.—It has been customary to keep patients on a milk diet at least four weeks after a hemorrhage from a gastric ulcer and to avoid all other, especially proteid foods. This, M. WAGNER (Münch. med. Woch., Jan. 5, 1904) thinks, is a mistake. He has often observed the good effects of proteids in the hyperacidity of chlorotic girls, without ulcer and was led to try the same diet in ulcer, arguing that albumin binds the free hydrochloric acid, which keeps up the irritation better than any other food. The patients are often in a condition of chronic inanition; to begin with rectal enemata and small amounts of milk would be to keep up the starvation and thus to prolong the healing of the ulcer, while large quantities of milk, sufficient to meet the demands of the system, would be risky. The treatment, as practised by the author, is as follows: Absolute rest for at least four weeks, ice-bag to the epigastrium. On the day of hemorrhage, 200 to 300 c.cm. of iced milk and 1 to 3 fresh raw eggs are given, together with two grams of bismuth three times a day. By the end of the first week, the milk has been increased to 800 c.cm. and the eggs to six to eight a day. Raw, scraped meat is allowed after the sixth day and after two weeks boiled rice or farina and zwieback. In three to four weeks a carefully selected mixed diet is well borne. The amount of bismuth is reduced considerably after ten days and at the same time iron in the form of Blaud's pills or with arsenic is begun. As compared with the milk diet, recurrent hemorrhages are less frequent and the gastric pains are alleviated more readily and the general condition improves quickly. A large number of the patients were again seen a year after the treatment; the majority had experienced no further trouble.

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SATURDAY, FEBRUARY 27, 1904.

LEPROSY AND FISH-EATING ONCE MORE.

CERTAIN recent newspaper articles have called attention once more to Dr. Jonathan Hutchinson's theory that the consumption of tainted fish by sea-coast populations is the principal cause, perhaps even the only cause of the spread of leprosy. Those who have been subscribers of the MEDICAL NEWS for the last seven or eight years will doubtless remember that our correspondent who was present at the International Leprosy Conference, held in Berlin in October, 1897, summed up what was said at that time with regard to any possible etiological connection between fish and leprosy. Dr. Hutchinson did not attend the conference in person, but he sent his paper to be read and while it was not discussed much during the session itself it was very freely criticized afterward.

The present writer was in attendance at that conference and remembers distinctly that not a single authoritative expert in leprosy agreed even in the slightest degree with the views expressed by Dr. Hutchinson. It must not be forgotten that owing to the circumstances under which that conference was held, at the invitation of the German government, practically all of the most distinguished authorities on leprosy in the world were present. They all seemed inclined to laugh at the idea urged by Dr. Hutchinson.

Such an attitude of mind on the part of all the medical authorities on a given subject may not, it is true, of itself prove the baselessness of a theory. Those who know medical history know very well that most of the theories which have afterward proved fruitful of important advances in medicine have been very bitterly opposed by distinguished authorities when first suggested. In fact the rule has come to be well established that if a new idea comes from a young man and is opposed by all the older men present at a meeting, it is very possible that there may be something valuable in it. However, this cannot be considered at all the case with Dr. Hutchinson's theory. It has now been before the public for nearly twenty-five years, yet without the slightest scintilla of actual evidence to support it. Dr. Hansen, who is very well known for his discovery of the bacillus of leprosy and for important clinical studies on the disease in Norway, tried, for several years, just after the discovery of his bacillus, to find some trace of it in tainted or in fresh fish. He did not succeed, however, in finding anything that would justify him in connecting the consumption of fish in any way with leprosy.

In a letter to the London *Times* several months ago, Dr. Hutchinson advanced what he considered a new and convincing substantiation of his theory of the connection between fish-eating and leprosy. He said that since the Reformation leprosy has disappeared from England. The reason for this disappearance is, according to his views, that before the Reformation the English people were bound by the precept of abstinence from flesh meat on many days in the year, altogether nearly one hundred in all, and as a consequence were much more likely to contract the disease because they were compelled to eat fish. When the obligation of this precept of abstinence was no longer binding then fish-eating went out of practice and leprosy disappeared.

There are two defects in this argument. One is that leprosy had already almost completely disappeared from England at the beginning of the sixteenth century, while the English Reformation did not occur until near the middle of that century. The other defect is that leprosy equally disappeared during the fifteenth century from every other country in Europe, as well as England, though most of the countries continued faithfully to observe the precept with regard to abstinence just as in the centuries before.

At a leprosy conference, held in London last year, the whole subject of the etiology of leprosy,

direct and indirect, was thoroughly discussed once more. Dr. Jonathan Hutchinson's fish theory received just as little attention as it did at the International Conference in Berlin six years ago. Sir Patrick Manson, who is considered one of the best English authorities on the diseases of the East, for his practical advances in which he was knighted not long since, scouted the idea of the consumption of fish having anything to do with the spread of leprosy. One Anglo-Indian physician brought with him to the conference the history sheets of over 100 cases of leprosy in patients who, owing to their religious principles, had never eaten fish, but had lived exclusively on rice. A physician from the island of Ceylon reported that leprosy existed only at a few points along the coast, though the inhabitants of the island lived almost universally on fish. When this food material reached the interior, owing to faulty methods of curing, it was not infrequently in a state of such poor preservation that it would exactly suit the requirements of Dr. Hutchinson's theory for the production of leprosy. Leprosy, however, is absolutely unknown in the interior of the island. On the other hand it has been shown that on the island of Madagascar, where, in the interior, many of the inhabitants live exclusively on rice, leprosy is not only not uncommon, but lepers are very frequent and require to be specially cared for by the missionaries.

In spite of every discouragement and the complete disagreement from his opinion of every prominent authority on leprosy, Dr. Jonathan Hutchinson continues to cling to the etiology of leprosy, which he formulated now nearly a quarter of a century ago. His letter to the London *Times*, making a religious matter of it, brought his ideas for the first time prominently before the public. His theory has never been given any prominence in medical literature. We shall, however, presumably have further revivals of it. Let us hope that physicians at least, will not give any credence to this bit of theory, which is absolutely unsupported by observation of any kind, formulated out of the whole cloth of theoretic consideration. Virchow's denunciation of it in 1897, as a medical doctrine likely to hinder the development of medical knowledge of leprosy by occupying observers' minds with investigations that he was sure would bear no fruit (he surely was in a position to judge, since his first article on leprosy was written nearly fifty years before he opened the discussion at Berlin), shows what the true basis of medical opinion with regard to it must be.

CYSTIN.

THROUGH the interesting researches of Mörner and Embden it has been conclusively established that the sulphur of the albuminous molecule is present largely, if not exclusively, in the form of a cystin complex, and can be obtained as such on hydrolysis with boiling mineral acids. The possibility was thus furnished of establishing the chemical constitution of cystin, and a basis created for profitable investigations into the sulphur metabolism of the body. Before this, researches in this direction were rendered extremely difficult through lack of material, as the urine, *i.e.*, concretions obtained from cystinuric individuals, represented the only source of supply. At the present time it is a very simple matter to prepare as much cystin as may be required for an investigation from horn shavings, or, still better, from human hair.

The immediate result of the investigations of Mörner and Embden was the establishment of the structural formula of cystin, by Friedmann. Baumann had previously regarded cystin as a methyl-glyoxylic acid derivative and as related to the mercapturic acids. This view Friedmann has disproven and he has shown conclusively that the cystin derived from albumins is the disulphide of an α-amido-β-thiolactic acid; in other words, it is an α-diamido-β-dithiodilactic acid. The synthetic production of the substance which Erlenmeyer has quite recently accomplished has borne out the correctness of Friedmann's reasoning. This fact established, Friedmann could show that an oxidation cystin can be converted to cysteinic acid; which apparently represents the sulpho-acid of cystein; this in turn yields taurin through loss of carbon dioxide. The long-thought-of connection between cystin and taurin was thus established and the probable antecedent and source of the taurin ascertained.

Long ago Kunkel and Spiro had shown that an increase of the ingested albumin to eight times the usual quantity only led to an increase of double the amount of normal sulphur in the bile. These experiments were made on dogs provided with biliary fistulæ, but led to no definite conclusion. Quite recently v. Bergmann resumed these investigations, but substituted cystin for the increasing amount of sulphur in the food, the diet remaining constant. The results were most interesting. It was ascertained that the administration of cystin did not lead to an increased elimination of sulphur in the bile. If, however, cholalic acid was simultaneously administered the

sulphur output was at once increased. As the sulphur in the bile is only present in the form of taurocholic acid the conclusion is justifiable that cystin is normally transformed to taurin and eliminated as such, providing that a sufficient quantity of cholalic acid is available. Another source of taurin is at present not recognized.

The question that then arose had reference to the fate of the administered cystin, in cases in which cholalic acid was not given simultaneously. To this end Blum administered cystin to dogs in various ways. As a result it could be shown that the administration of cystin by the mouth or subcutaneously did not lead to cystinuria, even when very large amounts were given. Its intravenous injection, on the other hand, led to a certain grade of cystinuria, unless the cystin was introduced into a mesenteric vein, in which case no cystin could be demonstrated in the urine. This fact finds its logical explanation in v. Bergmann's demonstration of the transformation of cystin to taurin. As the ability of the organism to eliminate taurin in the bile is limited by the amount of cholalic acid which is available at the time, we may assume that in the event of an increased production of cystin the normal organism will oxidize a certain amount of the taurin to sulphuric acid. As a matter of fact Blum found no increase of the lead blackening sulphur of the urine, when moderate quantities of cystin had been given.

These experiments throw light upon the interesting metabolic anomaly which is occasionally observed in the human being, and which manifests itself in the appearance of cystin in the urine. Various possibilities suggest themselves as probable explanations. That the anomaly depends upon an unusually intense hydrolysis of the ingested albumins in the gastro-intestinal canal, and a flooding of the circulation with cystin that has been absorbed, can probably be eliminated on the basis of Blum's feeding experiments. For an unusual degree of protein destruction in the tissues with the simultaneous liberation of unusually large amounts of cystin there is likewise no basis. We are consequently forced to the conclusion that the cause of the cystinuria must be sought either in an impeded transformation of the cystin to taurin or in the fact that a sufficient quantity of cholalic acid is not available for its elimination as taurocholic acid. Experiments on cystinuric individuals in this direction will not unlikely yield interesting results and may be anticipated in the near future.

PHILLIPS AND COMPANY.

THAT love is not always the fulfilling of the law seems lately to have been exemplified by Chief O'Neal, at Chicago. For he has raided the "Climax Marriage Club," of 1418 LaSalle Avenue, and ruthlessly arrested A. W. Phillips and six "young lady clerks." These, with the wife of the proprietor, who escaped, seem to have been carrying on a most profitable business in the sale of philters and potions, and as ministers of love, and feeders of its sacred flame. The police had, it appears, been watching the place for some months, but the time seems now to have arrived when the best-laid schemes of "Doc Phillips" have gone a-gley.

Numberless letters from all parts of the country were seized, the signatures of which—many of them from well-known people—only go to show, that fools' names, like their faces, may bring their owners into trouble, even when seen in private places. Love may be blind, but jurors are not, and though these signers of the declaration of independence of thought and action, may get nothing worse, they are likely at least to lend their names to the rude annals of the police court. There are, moreover, some very germinant seeds of scandal, scattered like plums, here and there in the correspondence, which, under the forcing process of blackmail, might produce a very rank crop of ill-smelling weeds. The wife, and presumptive partner of the proprietor, too, has not been captured, while the six little maids have been released. So that the securities of the patrons of the club can hardly be classed as "listed," and most certainly not as "preferred."

The principal source of revenue to the firm seems to have been the dispensing of drugs and nostrums that are unknown, in their present combination, to the United States Pharmacopœia, a large quantity of which were captured on the premises. Of these the "Silver Pill" appears to have been the "leader" in their trade-producing efforts, and for it they claim, in their circular, all the virtues that have been hitherto ascribed to the classic Pink Pills for Pale People and the much-vaunted Mormon Wafer. They were seductively put up, in attractive-looking boxes, and were sold at the remarkably low price of twenty-five cents per box—five for a dollar; probably on the principle of large sales and small profits. For the product of the illicit still of the medical world is apt to be much more expensive to the victim than the professional services of the regular practitioner. They were made fresh every hour, as

they claimed to meet the demand, and also perhaps to correspond to the birth-rate of the purchasers.

Each and every original package contained a printed slip of directions, which were explicit, and as easy to understand as the diagnosis of the ills for which they were to be given. "One pill every half hour after eating meals, and also take one every half hour when with the lady of your heart. They tone the nerves. Without them no one can be successful in courtship or business."

Can anything be more simple? So, if this be true, why should not suffering humanity, on whom the cloud of relaxation has fallen, take refuge in the silver lining of this bolus? Why not a silver pill? In fact, as Grosvenor sang, "Why not a silver churn?" All things come to those who wait, and what could be more charming than sitting with the "lady of your heart," with one hand in durance vile, grasping the pellet, while the fingers of the other twine about the glass of water with which to wash it down? Meanwhile the adored one lingers with the opened watch before her, waiting to call "time," and ready to administer the half hourly pill. Pills that are to "tone" the recalcitrant nerves, and "slowly warm the creeping life-blood to the last." Pills that are to render the laggard in love, and the dastard in war, men of action and affairs! What matters time, if business is increasing and every moment only serves to hasten the maturity of the coupons as the bonds increase and multiply?

It is love that makes the world go round, and if Phillips and Company, in connection with their six little maidens, can manufacture and dispense a sufficient number of silver certificates to increase the number of its revolutions—even at the ratio of two to one—this physic certainly deserves a better fate than to be thrown to the dogs of a confiscating municipality.

Great as the advantages of this rejuvenator are, and vast as the blessings may be, that flow from its constant use, yet this modern philanthropist goes one step farther, and states in a Biblical manner—as if keeping his best wine until the last—"that they are guaranteed to cure *bashfulness* in three months or less."

It is here that we draw the line. We acknowledge that it is not always just to require the testimony of our own special senses to confirm the statements of another. We admit that many inhabitants of the inland States do not believe in the existence of the sea-serpent, simply because they have not themselves seen it; while it is impossible to induce the majority of seafaring men to realize that there is any peculiar knowledge derived from previous experience that would prove useful in the handling of horseflesh. Therefore we do not say that bashfulness does not exist in Chicago, but we do believe, that if a person has arrived at adult age in the Western Metropolis, and has preserved any traces of it, his case has become so chronic, that it is far beyond help from any mere drug or course of treatment. Like the furunculous diathesis of Job, it has come to stay and has become bone of his bone, and flesh of his flesh.

Moreover, bashfulness is an attribute of callow, unfledged adolescence—the bloom of youth that custom withers. So if this Western Mephistopheles can strip the beard and wrinkles off from Faust, we welcome him. But can he raise the dead and show us Margherita as she used to be?

"It might have been a boyish love,
Ah weary woman—listless lover,
Again to feel that fierce wild thrill
I'd give—but who can live life over?"

ECHOES AND NEWS.

NEW YORK.

West End Medical Society.—The third regular meeting for 1904 will be held at the residence of Dr. Walter Mendelson, 159 West Seventy-fourth Street (telephone, 282 Columbus), on Saturday evening, February 27, at 8:15 o'clock. The paper of the evening will be by Dr. Henry L. Shively. Subject: "A Clinical Study of Myoidema, with Especial Reference to its Occurrence in Pulmonary Tuberculosis."

Surgical Outfit for Fire Companies.—Twenty-five leather cases, containing emergency medicines and surgical instruments, are to be furnished to every company in the Fire Department of New York City. With these cases always available, any one with surgical knowledge present at a fire may treat wounds on the spot. It is possible, too, that instruction in "first aid to the injured" will soon be given to all firemen.

Typhoid at Watertown, N. Y.—A preliminary report on the typhoid fever epidemic at Watertown, where there have been 300 cases of the disease since January 1, has been made to the State Health Department by Prof. O. H. Landreth, consulting engineer of the department, who is making an investigation of the situation. The epidemic, according to advices received by the department, is still raging with unabated vigor, five or six new cases being reported daily. Prof. Landreth, in his report, says that the city's water supply is apparently the most probable cause. The source of supply is the Black River. There are numerous villages located on the stream above Watertown. Above the city and on the watershed of the river a number of typhoid cases have been located, and Prof. Landreth believes that an accumulation of polluting matter on the watershed was washed down into the river during a thaw in the latter part of December. Watertown is constructing a rapid sand filtration plant, but it will be several months before any relief from this plant can come,

and meantime the people have been urged to boil thoroughly all of the water used for drinking purposes.

Seaside Hospital for Tuberculous Children.—Tuberculosis is to be attacked in a new quarter by the New York Association for Improving the Condition of the Poor, 105 East Twenty-second street, which has appropriated $15,000 for the maintenance at the seaside of children less than fifteen years old, who suffer from non-pulmonary forms of the disease. This will be the first seaside hospital exclusively for tuberculous children in America, although in France such cases are, as a rule, treated at the seaside, it being generally held by experts that the ocean air is the best for such patients whose lungs are unaffected. There are said to be nearly 4,000 children in the New York tenements suffering from scrofula, tuberculous joints, and lymph lobes. Several hospital beds have been provided for them, and the New York Orthopedic Hospital and the Society for the Ruptured and Crippled give special treatment, but the new hospital appears to be a much needed institution in the same field.

Volunteer Surgeons for Japan.—Surgeons and nurses are appearing at the Japanese Consulate every day to volunteer their services, and while they are not needed now, Consul General Uchida takes their names and addresses, which he forwards to the Japanese Minister at Washington. Dr. Anita Newcomb McGee asked Mr. Uchida to be allowed to go to Japan with a corps of trained nurses and attendants for the Japanese hospital service, either in the field or wherever they could be used to advantage. The Consul General, after consulting with the Japanese Minister, accepted the offer, and the volunteers will be sent as soon as they are ready. The war fund of $5,000,000 which is being raised by the Japanese residents of this country is constantly growing, and already almost $100,000 has been subscribed, with promises of more than twice as much more. Consul General Uchida has received two checks, one for $10,000 and the other for $5,000, both of which were sent by Japanese merchants of this city. Besides contributions of money, offers are daily made to the Consul of equipment for the Japanese Red Cross Society. One American firm has sent to the Consul General asking him to accept five large field ambulances, to be shipped at the donor's expense. Various firms of manufacturers of supplies and drugs have offered large quantities of their goods.

Opening of the New Mount Sinai Hospital.—Preparatory to the removal of the hospital to its new buildings at Fifth avenue and One Hundredth street, the admission of patients has been discontinued at the old hospital. A reception will be held at the new buildings on the afternoon and evening of March 15 and 16. Patients will be admitted to all departments Monday, March 21.

Annual Reunion and Dinner.—The seventh annual reunion and dinner of the Associated Alumni of Mount Sinai Hospital was held at the Freundschaft Society Building, Park avenue and Seventy-second street on Wednesday, February 17. Dr. G. L. Brodhead presided. The officers elected for the ensuing year are as follows: Dr. Edwin Sternberger, President; Dr. Charles Goodman, Vice-President; Dr. Leo B. Meyer, Secretary, and Dr. Eugene H. Eising, Treasurer.

Exoneration of Bellevue.—At a Coroner's inquiry into the death of Adolph Drucker, whose friends claimed that he had been beaten and drugged in Bellevue Hospital, the attendants were relieved from all blame. Coroner Jackson, in charging the jury, said that he thought that Drucker had died of alcoholic meningitis. "I examined the body," said the Coroner, "and found no marks of violence. Two patients in the hospital after Drucker's death said that he had been awfully maltreated, and that his death was due to this treatment. The men were afterward arrested on I-know-not-what charge, and what they say, therefore, must be taken with a grain of salt. I looked into the charges against the hospital, and found that Drucker had been treated as well and kindly as any other patient. Of course, he may have died of drugs—his life was heavily insured—but that could only be ascertained by an autopsy, and his body was removed to Westchester county before this could be performed. It can only be exhumed by a request of the District Attorney to the Supreme Court. Or Drucker may have had a fall and fractured his skull." The jurors, without leaving their seats, decided that Drucker came to his death through causes unknown, and exonerated the hospital from all blame.

The Medical Society of the County of New York.—At the annual meeting of the Medical Society of the State of New York, held in Albany on January 26, 1904, the following resolutions were unanimously adopted:

Resolved, That the Report of the Joint Committee of Conference be accepted and that the proposed Agreement for the Consolidation of the Medical Society of the State of New York and The New York State Medical Association be and the same is hereby approved, and the President of the Society is hereby authorized and directed to execute the same in the name and behalf of the Society, and the Secretary is hereby authorized and directed to affix the corporate seal thereto; and be it further

Resolved, That the Committee of the Society heretofore appointed for the purpose of bringing about the consolidation, namely, Dr. Henry L. Elsner, Dr. A. Jacobi, Dr. A. Vander Veer, Dr. George Ryerson Fowler and Dr. Frank Van Fleet, be and they are hereby continued as such Committee, with full power and authority to do whatever may be necessary to carry the Agreement into effect.

Action on the adoption of the enclosed report, together with the proposal of resolutions ratifying the action of the State Society, will be taken at the stated meeting of this Society, to be held Monday, Feburary 29th, 1904, at 8:15 P.M. Ratification of the action of the State Society by each County Society is requisite for the completion of the consolidation.

The Manhattan Dermatological Society.—Regular monthly meeting held Friday evening, Feb. 5, 1904, at the residence of Dr. E. L. Cocks, with Dr. I. P. Oberndorfer presiding.

Dr. B. F. Ochs showed a case of congenital venous angioma, occupying the right side of face and forehead; the child is now fourteen months old. At birth the nevus was a deep blue, but the mother states that the color is fading gradually, so that at present it is of a pale sky-blue color, the latter best observed in daylight. The upper half of nevus is covered with fine hairs. Dr. Ochs also showed his case of chronic onychia (presented at the January meeting). Microscopical examinations of scrapings and nail sections failed to show the favus, or tricophyton mycelia or spores. Dr. Gottheil termed the condition onycholysis, probably of non-parasitic origin. Dr. Whitehouse said present appearances did not suggest favus or ringworm. Psoriasis he could likewise exclude, owing to the degree of nail preservation after nine years' duration. He would look for some other origin not necessarily parasitic.

Dr. J. Sobel presented a case of acne indurata, showing result of treatment; of two years' duration and involving the face, chest and back. The usual hygienic and dietetic regulations advocated, cod-liver oil and pill. calcium sulphid internally; and locally lotio alba, unguentum of salicylic acid, sulphur and resorcin and the curette. Large acne nodules were treated with injections of hydrogen peroxid; the latter had a marked effect in reducing the large indurated papules. Dr. Cocks likewise used the curette and saw good results following the use of hydrogen peroxid. Dr. Gottheil would not be too enthusiastic concerning the value of calc. sulphid given internally. He also uses the curette and saw no scarring following. Dr. Bleiman stated treatment should be directed toward keeping down the hypersecretion of fat, which was the chief factor in producing sebaceous plugs and acne papules. Locally, sulphur, resorcin and naphthol ointments and the use of the curette.

Dr. E. L. Cocks presented two cases: (*a*) Case of hypospadias in a boy of ten years; the question of immediate or remote operation was discussed. (*b*) Case of squamous palmar syphilide. A young man, a fireman, twenty-eight years old, gave history of infection some years ago; the secondary symptoms and signs cleared up in due time, but a lesion of both palms is obstinately persistent and extremely rebellious to treatment. Both palms show induration sharply defined, smooth and glistening; no fissures. Dr. Gottheil suggested the injection method in these cases, claiming better and more rapid results. Dr. Sobel stated, the absence of fissures, the presence of marked induration and the sharply defined margins favored the diagnosis of syphilis. Dr. Whitehouse said these cases are always difficult to treat and prove rebellious to any form of treatment; he suggested local treatment was of prime importance. Dr. Oberndorfer also said he would pay more attention to local methods; internally antispecific treatment heroically administered.

Dr. W. S. Gottheil presented the following cases: (*a*) Acne cornea (shown at January meeting). New lesions were observed on the face and three or four more new ones developed on the hands. (*b*) Bromoderma; a papulopustular eruption on abdomen and thighs and smaller papules on the face following the administration of bromides. (*c*) Dermatitis herpetiformis; a young girl of fourteen years gave a history of repeated attacks of papulovesicular lesions on the face and body; the present attack is confined to the abdomen, groin and thigh, and consists of papules, vesicles and pustules, singly and in groups. The patient is never absolutely free from one of these outbreaks. Drs. Ochs, Sobel and Cocks agree in the diagnosis; history of recurrence was strongly suggestive of the condition. Dr. Whitehouse likewise favored this diagnosis, owing to the history, multiformity of lesions and the intense burning and itching. Dr. Abrahams would call it vesiculopustular eczema. Dr. Oberndorfer observed pediculi on the head; he thought the body lesions may have had some such connection and if so, he looked upon it as an irritative pustular eczema. Dr. Gottheil stated that an impetigo or a pustular eczema may resemble a dermatitis herpetiformis, but there was no such history of recurrence. (*d*) A woman, showing large crescentic patches, distinctly erythematous, well-defined margins, the latter slightly scaly and the centers pale; the clearing centers showing slight pigmentation. Lesions of several months' duration. Drs. Abrahams and Oberndorfer think it may be a syphilide. Dr. Sobel termed it mycotic eczema. Drs. Cocks and Bleiman recognized a resemblance to eczema marginatum.

Dr. Holding presents for Dr. Pisko the following cases, showing results obtained under X-ray treatment: (*a*) Epithelioma on lobe of right ear; was given three five-minute exposures every fifth day, then twice a week for ten minutes; a slight dermatitis developed, and treatment was temporarily suspended. (*b*) Congenital nevus pilarus pigmentosus on forehead; given eighteen treatments; the only result so far observed was falling out of the hair. (*c*) Acne rosacea; was under treatment for two years with ointments and other local applications; since October 12, 1903, has had thirteen X-ray exposures and some improvement is noticed. The therapeutic value of the X-ray in dermatology was discussed.

Hours for Bakers.—A decision was handed down in January by the New York Court of Appeals sustaining the law prohibiting the employment of bakers for more than sixty hours per week or more than ten hours per day, says *Charities*. Especial significance attaches to the ground taken, the statute being sustained not as a labor measure but as an exercise of police power for the protection of public health. The law had been attacked as unconstitutional in its interference with the right of contract. Three judges apparently held to the latter view and the position of the majority was reflected in an opinion written by Judge Parker. To quote in brief: "That the public are generally interested in having the bakeries and confectioners' establishments cleanly and wholesome in this day of appreciation of and apprehension on account of microbes, which cause disease and death, is beyond question. It can be safely said that the families of to-day are more dependent upon the bakers for the necessaries of life than any other service of supply. That being so, it is within the police power of the legislature to so regulate the conduct of that business as to best promote and protect the health of the people. Is it possible that any one can question that the sole purpose of the legislature is the safeguarding of the public health when it provides for floor, ceiling, and sidewalls, such material as that they may be readily cleansed; compels the keeping of floor and meal-food products in dry and airy rooms, so arranges that the storing facilities can be readily cleaned and prohibits the keeping of domestic animals within such rooms? It is reasonable to assume from the statute as a whole that the legislature had in mind that the health and the cleanliness of health workers were of the utmost importance; that a man is more likely to be careful and cleanly when well and not over-worked than when exhausted by fatigue, which makes for uncleanliness and slovenly habits and tends to dirt and disease. If there is opportunity—and who can doubt it?—for this view, then the legislature had the power to enact as it did and the courts are bound to sustain its action as justified by the police power. I hear but one argument advanced for the purpose of convincing the mind that the object of this statute is not to protect the interest of the public, and that argument is that it is to be found in the labor law. Therefore, it is said, it is a labor law and not a health law. The question presented by this argument is: Does the label or the body of the statute prevail? Does calling a statute names deprive it of its intended and real character? If a statute relating to banking happens, in the course of qualification, to be incorporated as an article in the general corporation law, does it cease to operate upon the banking interest? I submit without argument that the ques-

tions answer themselves. Medical authorities without number classify workers and bakers in confectioners' establishments with porters, stone cutters, and file grinders and other workers whose occupation necessitates the inhalation of dust particles and hence predisposes its members to consumption. Medical opinion and statistics bearing upon that subject, standing alone, fully justify the section under review as one to protect the health of employees in such establishments, and it is the duty of this court to assume that the section was framed not only in the light of but with a full appreciation of the force of the medical authority bearing upon this subject—authority which reasonably challenges the attention of the philanthropist."

PHILADELPHIA.

Increase in Pneumonia and Typhoid.—Of the 605 deaths reported for the week ending February 20, 125 were due to pneumonia. Officials of the Bureau of Health, who regard the disease as contagious, are considering the advisability of issuing a circular calling attention to precautions against the disease. During the week there were 142 new cases of typhoid fever, the largest number for one week since April, 1903.

Vaccine Corps Paid.—The thirty-six physicians comprising the vaccine corps of the Bureau of Health, who were succeeded by the recently appointed Medical Inspectors, received their pay on Monday. The pay aggregated $39,847. Between July 10 and December 31, 1903, they vaccinated 207,000 persons. Reports indicate that 75 per cent. of the vaccinations were successful.

To Regulate Meat Inspection.—Governor Pennypacker has recently appointed a commission to formulate rules for the suppression of tuberculous cattle in the State and also provide for a uniform system of meat inspection. This will be made possible by deciding upon a determining point when meat may be dangerous for use and hence its sale prohibited. At present no uniformity exists, although the meat inspection service in this city has lately been much improved. The report of the commission will be made to the State Live Stock Sanitary Board, which will promulgate the rules among the meat inspectors throughout the State. The Secretary of the Board states that about 3 per cent. of the cows from herds about Philadelphia are tuberculous.

Address by Dr. Northrup.—Dr. W. P. Northrup, of New York City, was the guest of honor at the annual dinner of the J. C. Wilson Medical Society of the Jefferson Medical College, February 19. Previous to the dinner Dr. Northrup addressed the students of the college, his subject being "Joseph O'Dwyer, M.D.; his Methods of Work on Intubation; The Measure of his Success; The Interest of both to Young Graduates."

Additions for Methodist Hospital.—Additions costing $300,000 are projected for the Methodist Episcopal Hospital during the present year. Among the new buildings will be a dispensary, nurses' home, power house, and kitchen. A new ward for charity patients is also contemplated.

Sites for Health Camps.—In a recent address before the American Philosophical Society on the prospects of forestry in Pennsylvania, Commissioner J. T. Rothrock emphasized the need for establishing sanatoria and camps for the treatment of consumptives. That Pennsylvania is equipped for this purpose was proven by the statement that the State owns some 600,000 acres of land better adapted to forestry than agriculture, having been purchased at prices varying from 7 cents to $3.85 an acre. This land is distributed through twenty counties and offers many excellent sites for camps.

New Medical Magazine.—The first number of *The Therapeutic Review*, a monthly magazine, to be issued under the editorial management of Dr. Horatio C. Wood, Jr., has made its appearance. It is a well-printed journal of 40 pages and is to be published at $1.00 per year. The purpose of the new publication can best be given in the following extract from the editorial announcement: "Our purpose is to offer a journal which will not only be given up exclusively to therapeutics, but which shall give as complete a summary as possible of all that is being done, throughout the world, in the treatment of disease. We intend to present every month a copious résumé of the important therapeutical literature of the world in a concise but readable form."

Vital Statistics Modernized.—The International Classification of deaths is now being used in filing the vital statistics of Philadelphia. This system was put in force on January 1, thus making it possible to compare the statistics of this city with those of other large cities of the world. It is stated that the statistics of the past four years will be practically useless for the next census, owing to the failure to adopt during that time the classification mentioned.

CHICAGO.

Presentation of Loving Cup to Dr. Quine.—The Senior Class of the Medical Department of the University of Illinois (College of Physicians and Surgeons), at its annual reception given Feb. 9, in honor of Dr. Wm. E. Quine, the Dean, presented him with a silver loving cup, as this marked his fifty-seventh birthday anniversary, his thirty-fourth anniversary as a medical teacher, and his twenty-first anniversary as a member of the Faculty of the College.

Suicide by Carbolic Acid.—The use of carbolic acid is not a passing fad among suicides. It is an established custom, due primarily to the fact that the legitimate uses of the acid are so numerous that it is easy for almost any person to give a druggist a plausible reason for the purchase. Death by carbolic acid is death by torture, but the would-be suicide who is in real earnest does not stop to bother himself about a few moments or a few hours of agony. The Retail Druggists' Association favors the passage of a City Ordinance regulating the sale of this poison, and the Council will do well to give the proposal careful consideration. It is said that the placing of restrictions upon the free sale of concentrated solutions will do much good, with little inconvenience to the public, inasmuch as the more diluted solutions are perfectly satisfactory for most legitimate uses. The concentrated solutions are fatal, but the weaker solutions are much less dangerous. There is reason to believe that a properly framed ordinance would reduce the number of suicides.

Mortality of Diphtheria.—Between Oct. 5, 1895, the date of the first case treated, and Dec. 31, 1903, the antitoxin administrators of the City Health Department have treated 7,435 cases of bacterially verified diphtheria, of which number 479 died, a mortality rate of 6.44 per cent. The average mortality without antitoxin still remains at about 35 per cent.

Influenza.—The weekly Bulletin of Health has this to say with reference to influenza: "When a person is ill with influenza, it is better not to visit him or, if a visit is imperative, it is advisable to avoid unnecessary personal contact. After the interview, the hands should be thoroughly washed in an antiseptic solution and the

outer garments should be aired by being exposed to a current of fresh air, or, better still, to the direct rays of the sun. The condition of the general health should be maintained by plenty of outdoor exercise, by good food, and the avoidance of indulgence in alcohol. At the onset of the initial symptoms, the patient should remain in bed and should at once obtain medical advice. No reliance should be placed on popular remedies, for the complications are so grave that the best possible treatment is required. Do not fool with the grip, but go to bed and send for your doctor."

Cryoscopy.—Dr. Theodore Tieken read a paper on this very interesting subject before a recent meeting of the Chicago Medical Society, in which he reviewed in detail the evolution of cryoscopy and the literature up to the present time. He sums up the conclusions of other workers along similar lines and compares the results with those he obtained. During the past eighteen months he has examined the blood and urine in 330 cases, making in all over 500 estimations of the freezing points. He finds that the results obtained by Koranyi, Kümmel, Caspar and Richter, Rumpel, Tinker, and others, are correct, and that the slight differences may be accounted for by errors in technique. He used the Beckman apparatus for both the blood and urine, and gives the normal freezing point of blood at 0.56° C. below zero, as found by previous workers. The urine, as collected for the usual twenty-four-hour specimen, freezes at 1.46° C. in the average normal individual, but the normal limits vary from .98 to 2.56°. He finds that the freezing point of the mixed urine does not give us much information as to the functional activity of the kidneys, and that a catheterized specimen from each kidney is necessary to be of help to us. The freezing point of the blood is nearly constant (0.56°), and the normal variations are much less than in the urine—.55 to .57° C. being usually given, but we must not be misled by the variations occurring in the freezing point of this fluid, as it, too, is subject to outside influences. He thinks that cryoscopy will be of value to us in many cases, especially when used in connection with the other methods of diagnosis, as ureteral catheterization, the phloridzin test, and careful chemical and microscopical examination.

Physicians' Club of Chicago.—At a meeting, held Feb. 16, Graft was the subject for discussion. Mr. Clarence Darrow, the eminent lawyer, defined graft as "the effort of any human being to take from society or from another human being or animal more than he really gives to society in return." Great grafts are done inside the law. The wise grafter never undertakes to get something contrary to the law. He undertakes to fix the law so that he can get something according to the law. It is more profitable and safer. The cheap grafter, who does not understand his business, and does things by retail instead of wholesale, who has little voice in making or administering laws, undertakes to graft contrary to the law. Great capitalists graft inside the law. It is easier for them to choose their agents and their tools to fix the law the way they want it, and they get what they want without running the slightest possible risk. The grafter is a product of his environment. There is considerable grafting in the legal profession. Indirectly, that is what the legal profession is for, said Mr. Darrow. It is a business chosen by certain men because they think by pursuing it they can get more than they can by pursuing any other business they are familiar with. He said it speaks well for the medical profession that there are few doctors in Congress or in legislatures. Dr. Harold N. Moyer discussed medical graft. He said he has made inquiries from a large number of members of the profession, and has been unable to find anybody who knew anybody who grafted, or knew anything about graft in the medical profession. He has found one or two men who said they knew of somebody else in the profession grafting, but upon running the inquiry down, he found it was false, and he received the word of the man himself to authenticate it. Dr. J. Clarence Webster asked about the Chicago surgeons in high places, who contrive with country practitioners to send them patients. Such men existed, and one could put his fingers on them. It is not necessity that stimulates these men to carry out this nefarious practise, which is not only detrimental to their self-respect, but a temptation to weak brothers with whom they come in contact. Within the last month he saw a circular signed by a surgeon who is connected with one of the well-known hospitals of Chicago. This circular was sent around to various physicians in Illinois and neighboring States, offering bribes for patients sent to him. He knows of the same thing having been done by a professor in one of the best medical schools in a neighboring State. These men are not starving. They do not require to do that business, but they do it. What is the explanation? Not necessity, but deviltry—degeneration, and as long as men in high places do this, he said it is absolutely folly to expect the struggling practitioners, who are in the position of being bribed, not to be bribed. Dr. Palmer Findley said the burden of medical graft falls upon the young physician and surgeon. He does not think any surgeon has to graft for bread and butter. Going out into a neighboring town two or three months ago to operate on a poor farmer's wife for a small fee, a physician, after the operation, showed him a card from an agent of a surgeon in Chicago, offering fifty per cent. commissions. This practitioner also showed him a letter from a local surgeon who solicited cases for twenty-five per cent. commission. Another case was mentioned of a physician in the same town who had gone personally to the attending physician in a case in behalf of a Chicago surgeon, and he had openly declared time and again that he was receiving a division of fees. The remedy should be the one President Roosevelt suggested for trusts—publicity—publicity through organizations, so that it will be impossible for men who are professors in leading medical schools and officers in medical societies to divide fees or give commissions. Mr. Wm. H. McSurely defined a grafter as one who allies or attaches himself to some outside interest, some interest apart from the main motive of his life, for the purpose of getting from that outside interest something that will be beneficial to the main motive of his life. He then spoke of lawyers and doctors as church grafters, the society grafters, etc. Dr. G. Frank Lydston spoke of the physician in politics and public affairs, saying that the doctor who devotes a portion of the years of his life to politics and to the public service is forever damned in the eyes of both the public and the medical profession. The reverse is true of the lawyer. In politics the lawyer attracts attention to himself. He said there were very few lawyers who rendered services in the interest of the public without salary, although this was frequently done by physicians.

CANADA.

The Prohibition of Alcohol in Medicine.—An effort is to be made by the Ontario Council of the Royal Templars to direct legislation to prohibit the sale of such patent medicines as contain alcohol in excess of

the quantity sufficient or absolutely necessary to preserve them. At a recent meeting of that body in Toronto, the question was again discussed in all its details and an analysis was produced of several of the well-known patent medicines which rather opened the eyes of several of the good thinking and acting people of this organization. It was abundantly proven that there was from 14 to 40 per cent. of alcohol in many of these preparations, and it was nothing more than whisky habit which caused many people to patronize these so-called cure-alls—another way of taking "morning bitters." For years the medical press has been calling attention to the fact that the virtues, if they were such, were all due to the stimulating qualities they possessed and that these were in all instances due to the alcohol in them. It is gratifying, then, that persistent and consistent agitation has brought the temperance people into line, and that they are uniting as a body in controlling the evil.

Sanitary Barber-shops for Ontario.—One of the members of the Ontario Legislature has a bill before that body seeking to amend the Medical Act, which amendment relates wholly to barber-shops. The legislation will seek to regulate and prohibit the admission to barber-shops of any person suffering from a communicable disease, will provide for the regular and efficient cleansing of the shops and instruments used, as well as the conduct of the barbers as regards personal cleanliness, and looking after the sanitary conditions of the premises. It will also seek to prohibit the employment of any one as a barber while he is suffering from any infectious, contagious or communicable disease.

A Royal Commission for the Prevention of Tuberculosis.—The Executive Committee of the Montreal League for the Prevention of Tuberculosis has appointed a Special Committee to interview the Dominion Government with the object of establishing a Royal Commission for the purpose of fighting tuberculosis. This Committee will draw up a concise scheme of the needs of the Montreal League and will approach the Provincial Legislature to ask for financial aid for the erection of a sanatorium near Montreal. At the meeting Professor Adami and Dr. A. J. Richer, who were present at the Baltimore Tuberculosis Exposition, gave an interesting account of the exhibits and demonstrations. Since June 30, 1903, the Montreal League has had 136 cases under supervision. Of this number 52 had died, six had been transported to their native land, ten were sufficiently improved to be discharged, 14 had been sent into the country, while 63 remained on the active list of the Committee. The medical inspector of the League had made 706 visits, and over 2,000 cuspidors had been contributed.

Annual Meeting of the Montreal General Hospital.—The eighty-second annual meeting of the Corporation and Board of Governors of the Montreal General Hospital was held in that city last week. According to the report the excess of expenditure in 1903 over ordinary income is $13,453 against $10,774 for the previous year. The ordinary income in 1903 was $91,763 against $87,439 in 1902. On December 31, 1903, the endowment fund amounted to $43,500, to which was added during the year $7,000. The hospital is making an endeavor to raise an endowment fund of $500,000. The total number of patients which passed through the wards in 1903 was 3,066 as against 2,878 in 1902, an increase of 188. The outdoor patients numbered in 1903 35,984 against 31,993 in 1902, an increase of 3,991. During the past year twelve nurses received their diplomas.

Marine Hospital Improvement.—The Federal Government will improve the Marine Hospital at Victoria, B. C., to the extent of $3,000.

Personals.—Lord Strathcona has contributed $20,000 to the development of the Science Department of Manitoba University at Winnipeg.

Dr. Claude W. Freeman has been appointed Medical Superintendent of the Hamilton, Ont., City Hospital.

GENERAL.

First Woman M.D.—The first woman receiving the degree of doctor of medicine in Germany was the wife of a pastor named Erxleben. She got it at the University of Halle, just 150 years ago.

Physicians' Pilgrimage to Rome.—The Society of St. Luke and Sts. Cosmos and Damien have made arrangements to visit Rome in a body shortly after Easter of the present year. These societies are composed of physicians, their patron saints having been physicians. It is understood by special arrangements with the Cardinal Secretary of State, Cardinal Merry del Val, that Pope Pius X. will receive the physicians in a special audience. They will also have the special privilege of admission to the gardens of the Vatican. The families of physicians also have the privilege of taking part in the pilgrimage. Specially cheap rates are offered on the railroads and at the hotels; for first-class transportation about $70; for second-class transportation, $58, and for third-class transportation, $48 will be the price of a return ticket from Paris to Rome. This price will also include, besides transportation, all expenses on the way, the hotel bill for six days in Rome, the expenses of carriages in Rome itself, as well as interpreters and guides, and the meals to be taken during the visits in the city. Applications to become members of the visiting party must reach the secretary, Boissarie H. Dauchez, Feron-Vrau, Rue Bayard 5, Paris, France.

Increase of Medical Corps.—Secretary Taft adopted on Feb. 18 a compromise measure providing for the increase of the medical corps of the army. Surgeon-General O'Reilly asked that the corps be increased to 20 Colonels, 20 Lieutenant-Colonels, 110 Majors and 300 Captains and Lieutenants. The General Staff reduced this in their recommendation to 12 Colonels, 18 Lieutenant-Colonels, 120 Majors and 300 Captains and Lieutenants. In reaching a conclusion Secretary Taft remarks that the argument advanced by the Surgeon-General for the larger increase was stronger than the argument against it by the General Staff. He therefore decides to recommend to Congress an increase to 16 Colonels, 24 Lieutenant-Colonels, 110 Majors and 300 Captains and Lieutenants.

CORRESPONDENCE.

OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, February 6.

THE PHYSIQUE OF SCHOOL CHILDREN IN SCOTLAND—THE WAR OFFICE AND THE MEDICAL SERVICE OF THE ARMY—DRUNKENNESS IN WOMEN—A FRUITFUL MARRIAGE.

DR. ALEXANDER OGSTON, Surgeon in Ordinary to the King in Scotland and Regius Professor of Surgery in the University of Aberdeen, is a man of independent mind, who is by no means disposed to believe, with Pangloss, that all is for the best in the best of all possible world. He incurred great unpopularity among the medical officers of the British Army a few years ago by his plain speech about their shortcomings. He went to South Africa as a volunteer consulting surgeon, and the evidence which he gave before the Royal Commission on the War, based on his personal observations, was by no means pleasant reading to patriotic British-

ers, who would like to think that every department of their military service is thoroughly efficient. More recently Professor Ogston has served on a Royal Commission on Physical Training in the Schools of Scotland. The other day he took the opportunity offered by a meeting of teachers at Aberdeen to deliver his soul on the physical conditions of school children in Scotland, and on the subject of education generally in its relation to health. Like Herbert Spencer he holds that the first object of the educator must be to make the future citizen a healthy animal. In the environment in which the children of the poor live and move and have their being in our large cities this can scarcely be done; bodily defects and deformities of one kind or another are so common that mental education is, in a large proportion of school children, physically impossible. Among those not actually defective, there are many in whom disease exists in a latent form, and almost all suffer from malnutrition to a degree approaching starvation. Nearly all the witnesses examined by the Commission testified that signs of racial degeneracy could everywhere be seen among the rising generation, but a sufficient body of definite facts in proof of this impression was not forthcoming. The Commissioners therefore obtained the sanction of the Treasury to an inspection of schools which might be taken as types by medical experts. Dr. Matthew Hay, Professor of Forensic Medicine and Public Health in the University of Aberdeen, and Dr. Leith Mackenzie, Medical Inspector of the Local Government Board for Scotland, were chosen to make the inspection. The result of their investigations was to show that there was an amount of ill-health, vastly greater than had been anticipated, among young persons attending school. The following passage from their report will give an idea of the state of things: "If the ratios observed by the examiners be admitted, and it may be gathered from their reports that they did not overstate the case, there are in the Edinburgh Board schools 700 cases of unrecognized phthisis, and 458 in Aberdeen, and 1,300 cases of unrecognized heart disease of a dangerous nature in Edinburgh, and 250 in Aberdeen. Of lesser ailments there are in the Edinburgh schools 15,000 children affected with disease of the throat and 7,500 in Aberdeen, and 12,000 cases of ear disease in Edinburgh, and 2,250 in Aberdeen. Of ailing children in the Edinburgh schools there is, even if only half the number of those reported be computed, a total of 10,500, and in Aberdeen 5,708, all of whom are in need of medical attention. Perhaps the most striking evidence that was laid before us of the absolute necessity of a better medical supervision of school children is the statement contained in the Edinburgh report, that out of the total of 299 male children examined in Edinburgh, 259 showed some defect, however remediable, of the ears and throat, and that out of 298 female children examined, 294 showed the same condition of disease." The reports of Drs. Hay and Mackenzie contain other details revealing a condition of matters described by Professor Ogston as "absolutely dreadful." They are, however, beyond denial, and are corroborated wherever similar investigations have been made. For example, quite recently Mr. Cheatle, a well-known London aurist, in examining the ears of 1,000 English school children between the ages of three and sixteen years, found only 432 of them normal; the remaining 568 had disease of the ears. Professor Ogston laid great stress on the mental overpressure to which many children are subjected by the educational methods of the present day. Not only school children, but university students are driven so hard that they either break down under the strain or take longer than the appointed time to complete their studies. At the root of the school difficulty lies malnutrition. It is not by any means only among the poorer classes that this exists. In nearly all schools, and particularly in girls' schools, the food is insufficient in quantity and improper in quality. In connection with this matter Professor Ogston had a good deal to say about "sugar gluttony," which he described as a growing evil in towns. "It may constantly be observed," he said, "that a free indulgence in the mastication of sweet-stuff is immediately followed by toothache, due to the production of a ring of disease round the necks of healthy teeth, which are corroded as if by an acid, and the habit leads to the aggravation of already existing caries of the teeth." In some children the sugar habit becomes an infatuation resembling the craving for drink. The Professor ventured on a prophecy that future observers will place sugar gluttony on a level with alcohol as a cause of deterioration in individuals and races. He insisted on the necessity of a thorough medical examination of all children on their first entrance upon school life, all through which they should be kept under skilled observation. Properly trained female inspectors would be an invaluable help. With regard to physical training, Professor Ogston said military drill, though it produces marvelous results in knocking an amorphous recruit into a shapely soldier, is physiologically unfitted for the tender bodies and minds of little children and girls. The Swedish (Ling) system of exercises, practised day after day with no intellectual apprehension of its mechanism, becomes inexpressibly wearisome to children. Moreover, it demands a standard of knowledge in the teacher which it seems nearly hopeless to expect. Even Sweden is beginning to find that its system, though perfect in theory, requires to be considerably modified before it can be used beneficially in schools. Whatever system is eventually introduced as a standard in schools, it cannot, in the Professor's opinion, be anything more than a tentative scheme, to be further perfected in the light of accumulating experience. The recreative element must never be lost sight of; hence no system of training can advantageously replace organized school games.

The War Office, which has become a synonym for red tape, obstructiveness and general inefficiency, is to be reconstituted, root and branch. Among the drastic reforms recommended there is one directly affecting the Medical Service. It is not long since a great victory was won for the medical officers of the army by the position of greater dignity and authority given to their chief. The Director-General was made a member of the Army Board, and as such was on an equality with other heads of departments. The matter was more than one of mere rank; the greater official position made it impossible for the military authorities to disregard the recommendations and demands of the Director-General. Under the new dispensation the Army is to be ruled by a Council, with the composition of which I need not trouble your readers; it is enough to say that there appears to be no place in it for a representative of the Medical Service. The attention of Lord Esher, the chairman of the Reconstitution Committee, has been called to this omission, and he has replied, in the true Delphic style of officialdom, that the position of the medical service is receiving the serious attention of himself and his colleagues. The question is indeed one of sufficient importance to call for their most serious attention, for the experience of the South African, as of every other, war, has conclusively proved that disease kills more men than either bullets or steel, and that epidemics lead to disaster just as surely as defeats. Hence, efficiency in the prevention of disease is an element of vital importance in a campaign. Lord Wolseley owes such laurels as he has won in the field as much to the

skill of his doctors as to his own generalship. Yet, so far from realizing his indebtedness he goes out of his way in his *Soldiers' Pocket Book* to make the remark, which comes with peculiarly bad grace from him, that "medical advice is a good thing—when it is asked for." This spirit of fatuous militarism is responsible for a vast amount ot sickness and death from disease in our recent wars. We are, therefore, waiting not without anxiety to see whether the evil tradition of fossilized pedantry which has wrought such mischief in the past is to be kept up under the new *régime*.

In a report presented to the London County Council not long ago it was stated that of 90 arrests for habitual drunkenness, in 89 the offenders were women. A very general impression prevails that the reformation of a female inebriate is practically hopeless. Dr. Branthwaite, the Government Inspector of Inebriate Homes, in his official report of last year, expressed the firm conviction that in the case of women who give themselves a fair chance there is at least an equally good prospect of success as in men. This view is, I think, opposed to that usually held by the medical practitioners who have most to do with female inebriates. Possibly, however, the views may be capable of reconciliation. It may be admitted that women who "give themselves a chance" may be reformed. But how many who are held fast in the bondage of drink do give either themselves or the physician a chance? A representative of the *St. James's Gazette*, one of the most respectable of our evening papers, has lately interviewed six specialists on inebriety with regard to this point. To the question, Can women drunkards be cured? they all replied in the negative. This is doubtless a hard saying, but it represents the opinion of men who have had exceptional opportunities of getting face to face with facts. A well-known physician is quoted as speaking to the following effect: "It is a humiliating confession in the face of so many homes, and systems, and the work the London County Council is doing, but there is no other conclusion. For two years—to give some examples—three of my patients were under treatment in various homes, and subsequently at their own homes. Not one of them is cured. One lost the craving for spirits, but in its place came a craving for drugs, and she is now a complete wreck. The other two drink as much as ever, and have not been at all affected by the system. I have never yet met a complete 'cure.'" The medical officer of a municipal Home for Inebriate Women expressed himself as keenly disappointed with the results of four years' work, and reluctantly admitted that he knew of no single case of complete cure. During that period 215 patients had passed through the home, and of this number 97 had been discharged as incurable, 103 had been sent away partially cured, there had been four deaths, and only eleven were reported "cured." As a matter of fact not one of those eleven women lost the craving, and they are all to-day heavy drinkers. This is attributed to the weak spot in the system, which is the impossibility of keeping patients under thorough supervision after they have left the home. A prominent temperance reformer whose experience of these homes extends over many years, was equally emphatic in his negative reply. "There is no cure," said he, "apart from a resort to strong drugs, which is a greater evil. I have the reports here of a score of homes, at which I am a regular visitor, but in no single instance have I noticed a thorough cure effected. The home is a splendid restraint, but soon after leaving it, a patient gives way again to drink. The perfect remedy is yet to be discovered." This testimony must sadden the heart of every lover of his kind and of every one interested in human progress, for women being, in so large a measure, the guardians of morality and setting the standard of private virtue. For nearly five years organized efforts for the reformation of female drunkards have been made here, and innumerable methods and systems have been tried to that end. And if it be asked, With what result? it must sorrowfully be answered, None. All the "cures" which have been so loudly vaunted and so widely advertised have, as was to be expected, proved utter failures; their warmest advocates are singularly reticent in regard to results, and even fanatical temperance reformers now dismiss the mention of them with a significant shrug of the shoulder.

One of our newspapers some years ago opened its columns to the public discussion of the question, Is Marriage a Failure? Whether—to speak in parliamentary style—the Ayes or the Noes had it, I do not remember, nor is the matter of any consequence. Whatever pessimists may say, it is not always a failure; and the following case may serve to show that it is sometimes a brilliant success. Mr. George Glazebrook, a Fellow of the London Society of Antiquaries, has lately published a curious pamphlet concerning a remarkably prolific couple who, during their wedded life, added no fewer than thirty-nine new members to the human race. The story is told by Mr. Glazebrook from the heraldic point of view in which he is specially interested, but it is worthy of note also from the physiological standpoint, as the facts appear to be well authenticated.

In July, 1698, Thomas Greenhill, "chirurgion of London," petitioned the Earl Marshall that, being the thirty-ninth child and seventh son of one father by one mother, he might be allowed a difference in his Arms to be borne by him in commemoration of the circumstance. From the records of the College of Heralds it appears that a grant was made in accordance with the petition. In the grant the worthy "chirurgion" is described as the thirty-ninth child and seventh son of William Greenhill, of Greenhill in ye County of Middlesex by his only wife Elizabeth, Daughter of John Jones of London. He was allowed to bear the arms borne by his father—"scilicet Vert 2 Barrs argent, in chief a Leopard passant or"—with the alteration of "ye Barrs from Argent to Ermine;" and whereas his forbears had borne for their crests in seals and otherwise a "Demi-Griphon" he was allowed to bear "ye same Gules, powdered with thirty-nine Mullets or." The Earl Marshall granted and confirmed "ye said Arms and Crest so differenced as abovesaid" unto Thomas Greenhill "in consideration of his Services to his Grace and his Family." These words show that Greenhill was the professional attendant of the Duke of Norfolk, the Hereditary Earl Marshall of England. The facts set forth in the petition may be accepted as true, as they are supported by a singularly strong concurrence of proof. Thomas Greenhill based his petition on a statement which if untrue could easily have been disproved by the Herald through whom he presented it, who was well acquainted with his family. The Earl Marshall knew Greenhill well as his chirurgeon, and by ordering the thirty-nine Mullets to be placed on the Crest was clearly willing to testify to the truth of the statements made in the petition. Moreover, it may safely be assumed that the Kings of Arms, as the Chief Heralds are styled,* jealous of the honor of the Earl Marshall and their own dignity, took care to satisfy themselves as to the truth of statements as to contemporary matters, which, if false, could so readily have been dis-

*Readers of Scott will doubtless remember the lines:

And still thy verse hath charms
Sir David Lindsay of the Mount,
Lord Lyon, King of Arms.

proved. Thomas Greenhill was the author of a treatise entitled, "ΝεκροκηδειαΝεκροκηδεια, or the Art of Embalming, wherein is shown the right (*sic*) of burial, the funeral ceremonies, and the several ways of preserving the dead bodies in most nations of the world, etc." It forms a quarto volume which was published in London in 1705.

THE TWENTIETH ANNIVERSARY OF THE FOUNDATION OF THE PHILADELPHIA NEUROLOGICAL SOCIETY.

To the Editor of the MEDICAL NEWS:

DEAR SIR: The Philadelphia Neurological Society celebrated the twentieth anniversary of its foundation on January 26 and 27, 1904, with a special scientific meeting at the hall of the College of Physicians, of Philadelphia, and a dinner at the University Club. On the first evening papers were read by Dr. James Hendrie Lloyd, on The Psychological Conception of Insanity; by Dr. S. Weir Mitchell, on The Mental Processes by Which the Rest Treatment Was Evolved; by Dr. J. Chalmers DaCosta, on The Place of Surgery in the Treatment of Insanity, and by Dr. Francis X. Dercum, on Mystic Medicine.

At the dinner, the President, Dr. Hobart A. Hare, acted as toastmaster. In calling upon Dr. S. Weir Mitchell he paid a glowing tribute to one who had illumined the science of medicine and who had contributed to the resources of medical practitioners all over the world an invaluable therapeutic measure which had accomplished more good than any other single plan of treatment in the whole range of therapeutics. Dr. Mitchell responded to the toast "The Dawn of American Neurology" and showed how the Civil War in America furnished the material from which the first systematic studies were made on the Injuries and Diseases of the Nerves. Entering the United States Army as an Acting Assistant Surgeon he was assigned to duty in a large general hospital near the site of the Broad Street Station of the Pennsylvania Railroad, in May, 1863. Dr. William A. Hammond, who was then Surgeon-General, ordered Dr. Mitchell and Dr. George R. Morehouse to take charge of a hospital for soldiers suffering from nervous diseases and transferred them to a hospital on Christian Street and later to one on Turner's Lane, where Dr. W. W. Keen and Surgeon Charles H. Alden, U.S.A., were associated with them. Dr. Mitchell paid a tribute to the wisdom of Dr. Hammond in giving them unusual facilities for observing almost every conceivable type of nervous disease and of injuries of the nerves occurring through two or three years, and these studies formed the basis of several papers on neurological subjects by Mitchell, Morehouse and Keen. Dr. Mitchell said that Dr. Keen could not be killed by overwork, but that he unfortunately turned from the higher branches of neurology to the lower domain of that of a distinguished surgeon.

Dr. Spitzka was introduced to respond to the toast "Neurology in New York," and the toastmaster referred to his studies on the Mid-Brain. Dr. Spitzka said that he stood in the mid of brains. He also referred to Dr. Hammond's work for American neurology, that but for him it would not be what it is to-day in this country. He referred to the social occasions which accompanied the early meetings of the New York Neurological Society, and the brilliant gatherings which marked the origin of the American Neurological Association. He referred to Jewell, Edes and Putnam, of Boston, to Miles and Van Bibber, of Baltimore, to Bannister, to Schmidt, of New Orleans, an indefatigable worker in the anatomy of the brain and who produced some of the most remarkable and perfect microscopical sections ever shown. He spoke of the practical school which was devoted to studies of spinal irritation and neurasthenia; of the Seguin School devoted to the exact science of disease, but permitted the absence of the imagination. The Philadelphia neurologists were referred to in complimentary terms and credited with having had a biological way of thinking. To Leidy we owe a debt, which, in his estimation, was equal to that we owe to S. Weir Mitchell.

Dr. G. L. Walton, of Boston, was introduced as one who believes in making a distinction between a degenerate and a normal man and who has suggested that we henceforth call them deviates. Dr. Walton replied to the toast "American Neurology of To-day," and spoke of the advance which neurologists had made since the days when they devoted themselves largely to moving the poles of an electric battery up and down the body, to advances in our knowledge of myelitis and in other fields. He presented greetings from the Boston Society for Psychiatry and Neurology and referred to the Philadelphia Neurological Society, which had so long stood in the forefront of neurology in this country.

Dr. Wharton Sinkler was then introduced to reply to the toast "The Relation of Medicine to Neurology" and characterized as a man who combined the functions of a successful general practitioner with that of a specialist in nervous disease. Dr. Sinkler said that the relation of Neurology to General Medicine was now that of an overgrown child; that the late Dr. William Hunt had once said that specialists had so divided the general practice that there was nothing left for a new specialist but the umbilicus. He referred to the fact that frequently gross brain lesions were mistaken for hysteria and insisted on the great value of a thorough knowledge of general medicine in the proper equipment of the specialist in nervous disease.

Dr. Charles K. Mills was introduced to respond to the toast of "Neurology in Philadelphia." He reviewed the work of the Philadelphia neurologists, when great activity began to be shown, and referred in passing to the earlier work of Hughlings Jackson, Hitzig, Matthias Duval, and others abroad; to the stimulus which Dr. S. Weir Mitchell imparted to Dr. Mills and others in arousing an interest in the subject in Philadelphia. Dr. Mills said that as a result of these efforts Dr. H. C. Wood was appointed at first a lecturer on nervous diseases in the University of Pennsylvania and was made professor in 1872, the first appointment of the kind in this country, although Dr. Benjamin Rush had previously lectured in the University on Insanity and lectures on the same subject had been delivered by Dr. Isaac Ray, in Jefferson Medical College in 1871-2. Later Dr. Dercum was made Clinical Professor of Nervous Diseases in Jefferson Medical College in 1892; Dr. Mills was made Professor of Medical Jurisprudence and Insanity in the University and Dr. Wolff, Dr. Burr and Dr. Pearce had received other appointments in the colleges. The notable work of the Orthopedic Hospital and Infirmary for Nervous Diseases was referred to, beginning in 1867-8 and growing to a great hospital. The early history of the creation of nervous wards in the Philadelphia Hospital was sketched, growing from 20 patients in 1877 to the wards to 350 patients at present. Then the origin of the Philadelphia Neurological Society was given. At the first meeting in Dr. Mills' office when Dr. Sinkler, Dr. Dercum, Dr. Lloyd and Dr. Eskridge determined to issue a call, and in January, 1884, the first meeting was held at the College of Physicians.

In the twenty years of the Society's existence there have been 616 contributions, including 250 formal papers; about 40 minor scientific contributions and 290 clinical cases presented. Most, if not all, were of a

character to stimulate interest in neurology. The work of Mitchell, A. J. Parker and others too numerous to mention were commented upon and a graceful tribute was paid to the neurologists from other cities who had frequently visited the Society and contributed to the proceedings. G. H.

SOCIETY PROCEEDINGS.

THE WESTERN SURGICAL AND GYNECOLOGICAL ASSOCIATION.

Thirteenth Annual Meeting, held at Denver, Colo., December 28 and 29, 1903.

(Continued from Page 383.)

Mutiple Loose Bodies in the Knee-joint.—Dr. John P. Lord, of Omaha, Neb., reported the case of a middle-aged man who had suffered from recurrent attacks of arthritis, the result of loose bodies in the knee-joint. The attacks of inflammation and the frequent incapacity resulting therefrom had driven the patient to seek operative relief. Loose bodies in the posterior part of the joint were the chief offenders, and it was thought that no ordinary incision would permit of their successful removal. The writer's attention having been called to the use of the Volkmann incision by the Mayo brothers for suppurating knee-joint, it was determined that this method of attack would be required in this case. Transverse division of the patella and the incision of the lateral and crucial ligaments were therefore done, as in an operation for resection. This permitted full command of the articulation. Great difficulty was encountered in removing two of the bodies located behind the condyles. The patella was wired. The capsular ligaments were sutured with chromicized gut. Drainage was instituted and an interrupted plaster dressing applied. Union was primary, and a good result secured, although motion was limited. After two months the degree of flexion amounted to about thirty per cent. Attention was called to the necessity of delaying manipulation after this procedure for fear of retearing of the immature union of the ligaments, thus rekindling the arthritis. After a period of two months, however, active efforts were made to restore function, with greater success, although it was probable that full function could not be regained after such extensive surgical trauma of disarticulation. No precedent in literature was found for so radical an operation for this condition. There were ten of these loose bodies of large size, and so distributed that the ordinary incisions recommended would have been ineffective in securing the bodies, part of which were attached by pedicles. Less radical means would have defeated the object of the operation, and the patient's relief would not have been complete.

Chronic Adhesive Sclerosing Peritonitis.—Dr. H. G. Wetherill, of Denver, Colo., read a paper on this subject, in which, after reporting an interesting case at great length, he presented the following points: (1) The rareness of the disease. (2) Failure to generally recognize and to fully describe it on this continent, though it had been long well-known abroad. (3) The pathognomonic sign, namely, inability to unite the shrinking peritoneum when once divided during the course of the operation, which, so far as the writer was aware, he was the first to observe and describe. (4) The essential chronicity of the disease, as indicated by longstanding symptoms, otherwise unexplained, and by the shrinking and retraction of the peritoneum at the first operation, sixteen months prior to the patient's death, which proved the previous existence of the malady, and that it was not directly or indirectly the result of the operation. (5) The great importance of covering all denuded surfaces when, before or during the operation, chronic adhesive sclerosing peritonitis was diagnosed. (6) The characteristic subperitoneal connective tissue hyporplasia which was the pathologic feature of the disease. (7) The shrinking or contraction of the peritoneum caused by it, the clinical feature. (8) The possible significance of a somewhat similar pathological process taking place in the skin, coincident with unusual gastro-intestinal symptoms otherwise unaccounted for. (9) The danger of serious sequelæ incident to its surgical treatment. (10) The possibility of accomplishing much through medicinal measures, when the etiology of the disease was better understood. Potassium iodide and inunctions of mercury were worthy of careful consideration and trial in any suspected case of plastic peritoneal sclerosis.

Median Perineal Prostatectomy.—Dr. George E. Goodfellow, of San Francisco, Cal., had operated by the median perineal route in cases of hypertrophy of the prostate approximately 73 times, without any immediate mortality, so far as he was aware. He described the technic of the operation in detail. All of these operations were done under spinal anesthesia. Recently he had modified the operation a little. Instead of making an incision, as he had previously described in his papers, from the base of the scrotum to the margin of the anus, he now made an incision an inch in length above the perineal center, and through this opening he could enucleate the prostate with his forefinger. If it was necessary to enlarge the opening, he did so in the usual way. But through an ordinary incision he had enucleated a prostate weighing 7½ ounces. In no case had he failed to secure anesthesia when he had entered the canal. The needle was inserted between the second and third lumbar vertebræ.

Complications and Sequelæ of Prostatectomy.—Dr. James E. Moore, of Minneapolis, stated that no single operator had had sufficient experience to enable him to speak authoritatively upon the subject, and such extremes of experience had been reported that it was difficult to estimate the real dangers and difficulties of prostatectomy. It was altogether too grave an operation to be resorted to as a routine treatment for enlarged prostate, and was only applicable to properly selected cases. There would always be a place for palliative measures in neglected cases of prostatic enlargement. The most frequent cause of death following this operation was uremia, consequently the most important preliminary examinations were those of the kidneys. The next greatest danger was sepsis, and in the presence of an infected bladder it was an ever-present one. Positive indication for operation was very often a complicating cystitis, and it was for the relief of this complication that the various palliative measures were most frequently employed. The only satisfactory treatment for this complication was drainage, and this was best brought about by perineal prostatectomy. Stone was a frequent complication of enlarged prostate, and should always be sought for and removed during the operation. The incision for a prostatectomy, when too extensive, caused various complications. Hemorrhage was an occasional complication, but its dangers had doubtless been overestimated. A serious objection to the suprapubic operation was the extensive injury done to the bladder; while the most difficult problem connected with the perineal operation was how to avoid injury to the rectum. As sequelæ of prostatectomy, he mentioned impotence and incontinence or dribbling. A communication between the urethra and the rectum was

one of the sequels met with occasionally. Epididymitis was quite a common sequel of prostatectomy, sometimes becoming so troublesome as to require the removal of the epididymis. Because the writer had dwelt briefly upon possible, as well as probable, complications and sequelæ of prostatectomy, he did not wish to be classified as a pessimist. Some failures were bound to follow this important operation, as they did every operation of like magnitude. But notwithstanding this fact, it was destined to be one of the greatest boons modern surgery had to offer suffering mankind.

The Use of Silver Foil to Prevent Adhesions in Brain Surgery.—Dr. M. L. Harris, of Chicago, said the general principle of the introduction of some foreign substance had been tried in a sufficient number of cases of brain surgery to prevent adhesions, and with results which seemed to justify a belief in its efficacy. Of the materials thus far proposed, the author believed the thin foils were the best, and of these he preferred the silver foil. It was thin, soft and smooth. It conformed to all irregularities of the surface on which it was laid. As many layers might be applied as necessary to secure a smooth, unbroken surface. It was not only tolerated very kindly by the tissues, but exerted a beneficial influence on granulating or healing surfaces. The foil might be placed directly in contact with the brain tissue between the pia and dura, or wherever it might be necessary to accomplish the purpose desired. The author had used the silver foil in a number of cases of brain surgery, and urged its more frequent use. He cited a case which illustrated the principle.

Resection of Arteries and End to End Union: Experimental Research.—Dr. O. Beverly Campbell, of St. Joseph, Mo., detailed 40 experiments on animals, in which different methods of operating were adopted. The author stated that from a recognition of the probably correct theory of the coagulation of the blood, and considering the experiments that had been made and the results obtained, eliminating the process of infection, there still remained factors in the production of thrombosis in the suture of arteries yet to be met and overcome before it could be hoped to re-establish permanently the circulation of the blood following end to end union of arteries. The possibilities of permanently re-establishing the circulation of the blood in arteries following end to end union, or resection, was in the author's opinion yet to be demonstrated.

In the experiments of Murphy, as well as the writer's, it was observed that where thrombosis did not occur, in the majority of cases an obliterating endarteritis occurred. Murphy observed: "After suture of a vessel there is a tendency to endarteritis obliterans." As this process was one of slow formation, it was one of minor importance as to the ultimate result of arterial suture. While the endarteritis was occluding the vessel, collateral circulation was being established, and the danger of death of the part obviated.

Conclusions.—1. The death of the endothelial cells following injury to arteries and the addition of cell death incident to the trauma inflicted from operative measures for the repair of the injury probably furnished the necessary nucleo-albumin needed for the production of the chemical process of coagulation of the blood. 2. That in the resection of arteries and in their suture in continuity, the suture should not penetrate the intima, as the additional death of endothelial cells incident to passing the suture and surrounding it from pressure necrosis might contribute to the coagulation of blood. 3. That the most rigid aseptic technic should be followed in surgical work upon the arteries.

Surgical Treatment of Pulmonary Abscess.—Dr. Van Buren Knott, of Sioux City, Iowa, stated that in two cases which he had seen, although the patients presented all symptoms common to pulmonary abscess, and the physician in attendance, as well as himself, were satisfied of its existence, they were only able to locate it in one case at the autopsy, and in the other suffered the indignity of having the diagnosis confirmed and failure to locate the abscess accentuated by its rupture into the pleural cavity, with empyema as the penalty. While in many quarters attempts to locate the abscess by aspiration had been denounced as unsafe, and injudicious, his limited experience had taught him the inadvisability of attempting to open an abscess of the lung without the aspirator as a guide. The physical signs common to this condition in many cases were alone not sufficient to render its exact localization possible, and while one might be satisfied in a given case that the lung contained an abscess, and from the usual methods of examination had decided as to its location, this point should be corroborated by the aspirator before proceeding with the operation. Two cases of pulmnary abscess were reported. As to the treatment of these cases by other than surgical methods, the author said it promised little, and as the complications of gangrene, empyema and bronchiectasis so seriously increased the mortality, even in the hands of the best operators, it would appear that a plea made for early operative relief of patients suffering with pulmonary abscess was not inconsistent with the facts.

The Anatomy and Physiology of the Peritoneum and Their Relation to the Treatment of Peritonitis.—Dr. Arthur E. Hertzler, of Kansas City, Mo., said the stomata were declared to be artefacts, for the reason that they occurred only when the peritoneum was treated with a silver nitrate solution. They did not appear when dilute solutions were injected into the peritoneal cavity of the living animal. Other reasons had been given in a previous paper. Attention was called to the fact that the universal reference to the deposit produced when a serous membrane was treated with silver as an albuminate of silver was an error. No such substance existed. What was formed was in all probability a silver chloride produced by the action of the Cl in the fluid with the Hg in the silver solution, producing the stable silver chloride. The peritoneum was covered by a layer of fat cells resting on a layer of elastic tissue. Below this were the blood and lymph vessels. Both systems always formed complete channels, and the lymph vessels never formed a connection with the peritoneal cavity. In the process of absorption from the peritoneal cavity the fluid must pass between the endothelial cells lining the peritoneal cavity, through the elastic layer, and between the cells lining the blood vessels. Whether the cells of each of these layers were united with the intercellular bridges could not be stated. The absorption of 7-per-cent. NaCl solution took place more rapidly than any other solution. Salt solutions of more than one per cent. were absorbed more slowly. Certain solutions caused a transudation, instead of being absorbed. Chief among these was formalin. It was effective in a dilution of 1 in 10,000. Absorption was likewise lessened by the production of an artificial hydremia. Normal NaCl solution might be used either by hypodermoclysis or per rectum, the former being the more rapid and more certain.

Applying these researches to the treatment of peritonitis, the fallacy of normal salt irrigations was insisted upon. By using this fluid the toxins were hurried into the circulation more rapidly. The logical treatment was to employ those means which retarded absorption. The production of an artificial hydremia might be accomplished either by the injection of the salt solution under the skin or per rectum. Formalin in the strength indi-

cated was safe, as had been previously determined by intravenous injections.

Cholecystitis, with Special Reference to Etiology and Diagnosis.—Dr. T. E. Potter, of St. Joseph, Mo., after reviewing the subject, said that the most probable cause of infection of the gall-bladder was not through the intestinal walls, nor through the hepatic tissue, nor from the duodenum through the hepatic ducts, but through the blood of the portal system; and from this source we not only had the catarrhal and parenchymatous inflammations, with occasionally empyema, but sometimes malignancy caused by the presence of stones. Among the most prominent symptoms he mentioned tenderness immediately under the ninth intercostal cartilage, saying that this symptom was as valuable as tenderness in the region of McBurney's point in cases of appendicitis. This tenderness might extend down for two or three inches. To elicit it, one should press the fingers up under the ribs and require the patient to take a deep inspiration. The patient would complain of pain, and if the fingers were held firmly, the act of inspiration was instantly stopped as though there had been a sudden attack of pleurisy.

The Treatment of Posterior Perforations of the Fixed Portions of the Duodenum.—Dr. J. E. Summers, Jr., of Omaha, Neb., read a paper on this subject. Retroperitoneal perforations of the duodenum were of such infrequent occurrence that little attention had been directed towards their treatment. After a careful study, he had been unable to find anything written upon the subject that was at all satisfactory. After referring to the surgical work of Kocher, Villard, Jaboulay, Henle, Jeannel and Mikulicz, the author reported a case of gunshot wound involving the anterior wall of the upper vertical portion of the duodenum and the posterior wall of the duodenum nearer the lower angle. A young man, in attempting to escape from a policeman, was shot in the back by a 38-caliber Colt's revolver, the ball entering one inch below the twelfth rib and through the outer edge of the erector spinæ muscles, coming out in front 1½ inches below the juncture of the ninth right costal cartilage, with the right rectus muscle. One hour after the shooting the patient was etherized; the abdomen was opened by a vertical incision through the wound of exit. It was observed that the bullet had in its course from behind forward perforated the duodenum and gall-bladder. The wound in the anterior duodenal wall was sutured, likewise both holes in the gall-bladder. Because of the bad condition of the patient, it was decided not to attempt to expose the posterior duodenal wall from in front, but rather to rely temporarily upon an incision from behind, and the introduction of the gauze pack. In the carrying out of this latter procedure the writer discovered that the bullet had made a groove through the lower pole of the right kidney, another reason for the posterior incision. A liberal gauze pack drain was introduced down to the repaired duodenal wound of exit, and the wounds of the gall-bladder, and the abdomen closed so as to admit of the drainage. The patient died three days later, the post mortem illustrating the cause of death to be a retroperitoneal phlegmonous inflammation without peritonitis. Had the man's condition permitted, the author would have sutured the wound in the posterior duodenal wall after freeing and rotating the duodenum to the left. In the light of today one should, in a like case, in addition to repairing the duodenal wound or wounds, occlude the pylorus by means of a purse-string stitch. Either at this same operation or as soon thereafter as reaction permitted, a gastro-enterostomy should be made. None of the procedures which he had indicated required much time for handling of the intra-abdominal contents. They were the only rational methods of treating a perforation of the posterior wall of the duodenum. It was almost impossible for a gunshot wound of either the stomach or duodenum, which perforated both walls, to be limited to those organs. Therefore, under such circumstances, in addition to the repair of any intraperitoneal organs involved, proper incisions must be made to provide for retroperitoneal drainage.

Officers.—The following officers were elected: President, Dr. Charles H. Mayo, Rochester, Minn.; First Vice-President, Dr. H. D. Niles, Salt Lake City, Utah; Second Vice-President, Dr. L. L. McArthur, Chicago; Secretary-Treasurer, Dr. B. B. Davis, Omaha, Neb.

Milwaukee, Wisconsin, was selected as the place for holding the next annual meeting; time, Dec. 27 and 28, 1904.

THE MEDICAL ASSOCIATION OF THE GREATER CITY OF NEW YORK.

Annual Meeting, held at the New York Academy of Medicine, January 11, 1904.

The President, Andrew H. Smith, M.D., in the Chair.

Election of Officers.—The following officers were elected: President, Dr. T. E. Satterthwaite; Corresponding and Statistical Secretary, Dr. F. C. Raynor; Chairman for the Borough of Queens, Dr. N. O. Fitch; Member of the Executive Council, Dr. S. G. Cook. It was announced that the Council had appointed Dr. J. Lee Morrill, treasurer, in the place of the late Dr. A. D. Ruggles.

Membership.—The annual report of the Corresponding and Statistical Secretary showed that there are now on the roll of the Association 677 Fellows, 100 having been added during the past year.

Synchronous Ureter Catheterization.—Dr. F. Tilden Brown gave a very successful demonstration of synchronous ureter catheterization on the male subject, by means of his improved composite cystoscope. He also presented his first cystoscope, introduced in 1899, and stated that his cystoscope was the first to be employed for the purpose named.

The Bladder in Health and Disease, as Demonstrated by the Cystoscope.—Dr. Henry G. Spooner read a paper on this subject. He first gave a résumé of the history of modern cystoscopy since Nitze in 1879 had introduced a method of directly lighting the bladder by means of an electric lamp. After briefly describing the instruments now in use he stated that the New York Post-Graduate is the only medical school in this country where any practical instruction in cystoscopy is given. It is commonly asserted, he said, that after eight or ten lessons, the student will have acquired sufficient skill to catheterize the ureters, but this is an erroneous impression. Out of 12 men who completed Casper's course during the past autumn, only two succeeded in catheterizing a ureter, and one of these had been a former pupil of Dr. Spooner. Since Fenwick's work, issued in 1889, there has been no text-book on cystoscopy published in English. Only after continuous effort and a broad understanding can judgment be formed for the proper selection of cases for a cystoscopic examination. Before attempting to use the cystoscope on the living bladder the student should practice on one of the phantom bladders now obtainable, or, what will answer just as well, an apothecary's mortar lined with beeswax, to which little pieces of colored sponge are attached. Practice on the cadaver is unsatisfactory, for the reason that the urethral walls have lost their elas-

ticity. The cystoscope tolerates high temperatures very poorly. Having mentioned the methods employed by various authorities to render the instrument aseptic, he said that though the cystoscope is absolutely surgically clean, the urethra is very rich in bacteria. When a lubricant composed of glycerin-tragacanth with the addition of a 1 to 500 solution of *hydrargyrum oxycyanatum* is used, the instrument is said to convey no microorganisms into the bladder. To prevent any possibility of infection the bladder is washed out after each examination with a 1 to 5,000 solution of mercuric cyanide. Casper uses as a routine matter a four-per-cent. solution of cocaine as an anesthetic, and Nitze prefers a similar solution of eucaine, as safer. The bladder is then filled with a two-per-cent. solution of boric acid, and the cystoscope is introduced into the bladder with the greatest possible gentleness, to avoid any trauma of the urethra, which must be of sufficient calibre to permit of the easy passage of a soft rubber catheter 21 to 25 F. For a successful cystoscopic examination the bladder must be tolerant enough to retain at least 60 c.c. of fluid. When the bladder has been distended to the extent of 150 c.c., the cystoscope is inserted until the beak lies in the middle of the vesical cavity. The lamp being then illuminated, a clear luminous field of vision of a light yellow color can be seen. If the bladder is dilated with urine, the picture is more deeply yellow. The knob of the handle of the cystoscope indicates the position of its beak. As the shaft of the instrument is elevated, lowered, moved laterally, or rotated, all the internal surface of the bladder, with the exception of a small portion of the posterior surface, can be seen with the No. 1 cystoscope of Nitze. With the beak pointing up, the instrument is gradually drawn toward the operator, when a darker zone, representing the neck of the bladder, extends across the lower part of the field of vision. If the cystoscope be further retracted, this darker zone increases in size until it covers one-half the picture. On still further retraction, darkness ensues, as the prism has been covered by folds of the prostatic urethra. Before any additional examination is made, the light must be turned off, and the beak reinserted into the middle of the cavity of the bladder. When the cystoscope is pushed back, so that the prism is focused on a surface of mucous membrane, a pale pink field, shading on the orange, with parallel arterial branches, is seen in the normal bladder. The color of the healthy bladder varies, however, with the individual and with the locality of the bladder in the same individual; also with the brilliancy of the illumination, the distance of the prism from the bladder-wall, and the transparency of the fluid medium. When the beak is rotated below 1908 and moved forward and backward, there can usually be distinguished the interureteral line, which represents the posterior boundary of the trigonum. This line is a very important landmark, as the ureteral orifices can be found at its lateral termination. When the bladder is not sufficiently distended, the folds of mucous membrane of the trigonum will prevent the interureteral line and the ureter openings from being seen. When the prism is placed directly on the ureteral orifice, the latter is observed as a luminous line in the form of a slit, which is generally located on an elevation. At the moment when drops of urine exude from the opening the ureter can be seen to bulge on the surface of the vesical wall. While the ureteral orifice is usually situated on a little round protuberance, it may lie in a depression. Its form is materially altered after cystitis and also after some constitutional diseases. Just when the variations of the normal bladder have advanced to a sufficient degree to constitute a pathological condition is often difficult to determine. When there is any hindrance to micturition, the muscular framework of the viscus must do more work than formerly. Slightly trabeculated bladders are found both in youth and old age, and cannot be considered pathological. In cases of urethral stricture or prostatic enlargement the bladder hypertrophies more and more, in consequence of its efforts to expel its contents, until we meet with a markedly trabeculated condition. As the intravesical pressure is increased, the urine is forced in between the trabeculæ, and pouches, not infrequently of considerable size, become formed. In extreme cases a rupture of the bladder, with fatal peritonitis, may result.

Its Use in Cystitis.—In cases of cystitis it is generally stated that the cystoscope is contraindicated on account of the intolerance of the bladder. With patience and perseverance, however, all the details of the inflammed bladder can be studied cystoscopically, the dilated arteries, the swollen and deeply congested mucosa, and here and there extravesations of blood or surface ulcers. The cystoscope has shown that gonorrheal cystitis is a localized process, involving the neck of the bladder and the trigonum, but never extending any further. More frequently than was formerly supposed, cystitis tuberculosa is engrafted in the chronic gonorrheal area. Miliary tubercles can be seen in the form of small round gray elevations, surrounded by hyperemic areas. Later, extensive ulcerations of the mucosa and submucosa are formed. After inflammation of the bladder, especially the gonorrheal variety, the region of the trigonum shows a remarkable tendency to papillary proliferation. The deeper layers of the polymorphus epithelium of the trigonum are of considerable interest, inasmuch as the spindle-shaped and cylindrical cells have much similarity with isolated elements of certain malignant growths. From the histological formation of the trigonum it is therefore easy to understand why this region should show such a tendency to papillary proliferation. As growths of the bladder increase in size for a long time without causing the patient any suffering, an early diagnosis can be secured only by means of a cystoscopic examination. These small villous growths are the starting points of most of the tumors of the bladder. Single growths with small pedicles are mostly benign, while tumors having a broad base are generally malignant. In cases of vesical calculus a cystoscopic examination will give us an exact knowledge of the existing conditions. Small concretions may be overlooked, and the cystoscope may reveal their presence. To determine the extent of mechanical hindrance to urination occasioned by hypertrophy of the median lobe of the prostate, the cystoscope is our only guide. Dr. Spooner's paper was illustrated by a large number of diagrams, accurately colored, representing the various conditions described.

The Cystoscope Not of Universal Applicability.—Dr. Frederic E. Sturgis said there were many instances in which the cystoscope was of very little service. This was especially the case when hemorrhage was present.

Asepsis.—The usual agents employed to secure asepsis, carbolic acid, formaldehyde, etc., were objectionable because if used in sufficient strength to be of service for this purpose the solutions must be stronger than safety admitted. He thought the best things to employ were hot water, alcohol and soap. The water should not be too hot, however, as this would prove injurious to the cystoscope. It was impossible by any method to obtain complete asepsis, and, at all events, he believed that most of the bacteria (about which we really know very little) were less deleterious than was generally supposed. In his opinion the procedures usually advocated, such as syringing the urethra thor-

oughly, injecting the bladder, and giving urotropin as an internal urinary disinfectant, were productive of more harm than benefit. There was nothing better as a lubricant than sterilized oil.

Anesthetics.—He objected to the use of cocaine, first, because in irritated conditions of the mucous membrane it might prove dangerous, and, second, because by depleting the mucous membrane of blood it gave rise to misleading appearances of the parts. Again, the pain which occurred after its effects had passed off was apt to be more severe than if no anesthetic had been employed. As to eucaine, this was absolutely worthless.

Amount of Fluid Required in the Bladder.—There should be five or six ounces of fluid in the bladder, if the patient could stand it; in fact, the fuller the bladder, the better, as the maximum distention possible was desirable.

Only Recently the Cystoscope has Proved of Practical Service.—Dr. Eugene Fuller said that although the cystoscope had been known for a number of years, we were now able to do much more with it than formerly, on account of the improved apparatus at our command. Thus, the introduction of the cold lamp had really revolutionized the use of the instrument. Burns had frequently resulted from the hot lamp, and it was always a source of danger and anxiety. Again, ureter catheterization was almost entirely impracticable with the older cystoscopes, while with Dr. Brown's improved apparatus it could be easily done. All that was needed was a good eye, a steady hand, and good judgment as to where to look for the ureter orifices.

Air Cystoscope.—The air cystoscope of Dr. Lewis, of St. Louis, is of great service in cases where the bladder cannot be distended, but it is not of very wide applicability. In order to employ the cystoscope with advantage a good deal of practical study is required, and facilities for becoming familiar with its use are now afforded in this city.

Hemorrhagic Conditions.—Dr. Sturgis had spoken of the small utility of the cystoscope in conditions with hemorrhage. He thought, however, that by means of the adrenalin extracts we could usually now get rid of hemorrhage and obtain a good view of the parts. The cases presenting the most difficulty were those in which the hemorrhage comes from the anterior portion of the urethra and where the passage of the instrument itself excites hemorrhage.

Prostatic Hypertrophy.—As regards prostatic hypertrophy, he had never been able to derive much benefit from mapping out existing conditions before operating. The cystoscope was an excellent instrument in its place, but we could not do everything with it.

Facilities.—Dr. Ramon Guiteras said that in using the cystoscope the more elaborate tables were naturally the best, and the one which Dr. Brown had shown in making his demonstration certainly left nothing to be desired. For all practical purposes, however, an ordinary operating table served very well. Glycerin was the best lubricant, and to secure asepsis he was in the habit of employing the formaldehyde sterilizer. Cocaine could be resorted to if necessary, but in most cases the cystoscope could be used without it. From five to ten ounces of fluid in the bladder were the most satisfactory quantity. Certainly nothing had done more for modern cystoscopy than the substitution of the cold for the hot lamp. Under its use the patient suffered far less during manipulation and examination.

Different Cystoscopes of Service.—There is a variety of cystoscopes, and the operator should be able to use different ones as occasion required. Thus, for women the straight cystoscope was the best. The air cystoscope could not be compared with the water instrument as regards general utility. Practice, patience and perseverance were required for the skilful use of the cystoscope, and particularly in catheterization of the ureters. Especially was this the case as regards the air cystoscope.

A Simplified Cystoscope.—Dr. Follen Cabot presented a simplified cystoscope which he had devised. It was provided with but a single telescope, and was less expensive than the more elaborate instruments. He said it could be used with air as well as a solution. Air, he had found, was a little more painful.

Roentgen Rays in the Treatment of Cancerous and Skin Affections; Roentgen Rays in the Treatment of Epilepsy; Roentgen Rays in Diagnosis.—This was the title of a paper by Dr. J. Herman Branth. He said he desired to speak frankly of his own personal experience, which might vary somewhat from that of others. Instead of indulging in theories and scientific speculations, he would direct attention to practical points and to facts which he had observed again and again. He had to confess that he was not yet entirely rid of a certain skepticism as regards the remedial value of the X-rays which he had very strongly when he began to work with them. This agent was certainly not a panacea, and he hoped that due conservatism would prevail in the profession. Well tried remedies should not be lightly cast aside for the new and untried. At the same time, it was a fact that electricity, in one form or another, had gained a position as a remedy in affections in which heretofore, notwithstanding the pharmacological and surgical resources at our command, we had been helpless. In malignant disease the results with the X-ray are variable. The deeper the cancer, the greater the difficulty of successfully treating it; yet it has been his observation that in nearly all the deeper seated cases (this applies particularly to mammary cancer) the disease comes to a period of rest, further development being stopped for a time. He has not seen one case of cancer of the breast recede into a normal condition under X-ray treatment alone. There always remains a hard or perhaps more or less doughy deposit, and from this, as a focus, any degree of activity may at any time be developed. Consequently, he would not call this condition a cure. In his opinion it would be wrong to indiscriminately displace the knife by X-ray applications. The results when the cancerous tumor is removed by thorough excision, and this followed by X-ray applications, are oftener satisfactory, and he has observed several recoveries from post-operative recurrences as a result of X-ray treatment. It appeared to him that radiotherapy was the most successful in those cases in which the débris could be thrown off directly. If the Roentgen rays had the property of stimulating protoplasm into higher and more healthy activity, this might perhaps afford some explanation of the results observed not only here but in epilepsy. For epithelioma, rodent ulcer, lupus, and some other skin affections the X-rays prove an almost certain remedy. Dr. Branth here presented a private patient, a lady who had had lupus for fifteen years. All this time the best skill of prominent medical men was of no avail, the disease steadily progressing. A photograph was shown of her face when she applied to Dr. Branth for treatment. It was a remarkable result of the X-ray applications that a good part of the disease-invaded tissue was restored or in process of healing. This patient is still receiving one treatment a week. As regards Roentgen rays as a remedy in epilepsy, all cases of the disease are not amenable to this treatment, as, for instance, those in which degenerative processes in the brain have set in. In many instances the occurrence of the seizures

is believed to depend upon the instability of the cellular brain elements, or an abnormal metabolism, and as it is accepted by many authorities that the X-ray stimulates the vital activity of protoplasm, it was on this theory that the treatment was adopted. For the results obtained, Dr. L. C. Vincent deserved at least half the credit. About a year ago he and Dr. Branth together planned the method, but, owing to severe and prolonged illness, Dr. Vincent was personally unable to take part in the practical work. Three treatments per week are given, beginning with five minutes exposure at fifteen inches distance, and gradually increasing to ten minutes exposure and ten inches distance. A hard, or high vacuum, tube is employed, and a different part of the cranium is exposed at each sitting. The hair may drop out in areas, but it is certain to return in a stronger growth than before. In some epileptic patients there seems to exist a bromide drug habit, and to suddenly withdraw the bromides may cause a shock to the system.

In a few instances the best results were secured by returning to small doses of the bromides in addition to the X-ray treatment. With very few exceptions the patients gain in weight at a surprising rate. A lad, fourteen years of age, who was presented by Dr. Branth, had gained 9 pounds in four weeks. At the time the treatment was begun, November 8, 1903, the convulsions (grand mal) were becoming more and more frequent and severe, notwithstanding the free use of bromides. Since the date mentioned he had not had a single seizure, and his mother and his teachers had been astonished at his mental, as well as bodily, improvement. In his case the bromides had been at once withdrawn, and in addition to the X-ray treatment to the head, the static brush had been applied to the spinal region and head. Dr. Branth said he could cite a number of such histories, varying, of course, in different particulars. The gain in weight was noticeable even in those cases in which the mental faculties did not improve so rapidly. In cases of both grand and petit mal it was observed in general that the seizures became lighter and of shorter duration, that the intervals were longer, and that when a seizure occurred it was followed by less prostration than formerly. As to the diagnostic value of the X-rays, the surgeon may be guided by an X-ray photograph with more safety and certainty to give relief, while many patients have already been saved from the necessary danger of an operation because the X-rays demonstrated that an operation was needless. A photograph is far more reliable than a fluoroscopic examination, as it reveals details which are invisible by the fluoroscope. Dr. Branth presented a number of radiographs taken by himself. One was of an arm from which he excised the elbow-joint in 1896. The new false joint is cartilaginous, but there is nearly the normal amount of motion in it. This patient was also presented. One of the radiographs exhibited was taken through the skull of a young man, and demonstrated the value of X-rays in locating foreign bodies in the brain. A short time ago Dr. Branth had read in a medical journal that the X-rays could be used as a certain test for the existence of the life spark. This was proved to be an error by a radiograph which he presented of an Egyptian mummy's hand, dead about 3,500 years. In comparing this with the picture of living hands it was seen that in both the bones showed almost equally well. In the radiograph of a six months' fetus the ossified condition of the long bones was well shown; also the cartilaginous condition of the joints, the cartilage offering no resistance to the X-rays. The radiographs presented nothing new and were of inferior quality.

CHICAGO SURGICAL SOCIETY.

Joint Meeting of this Society and the Chicago Medical Society, held January 13, 1904.

The President, E. Wyllys Andrews, M.D., in the Chair.

The Surgical Treatment of Bright's Disease.—This was the subject for discussion.

The Medical Aspects of Decapsulation of the Kidneys for the Cure of Chronic Bright's Disease.—Dr. Arthur R. Elliott opened the debate. He stated that a study of the statistics available to date showed the total number of cases of true Bright's disease operated upon as 76; died, 36; mortality ratio, 47.36 per cent.; improved, 26; improved ratio, 34.21 per cent.; unimproved, 12; unimproved ratio, 15.78 per cent.; rendered worse, 2; worse ratio, 2.66 per cent. Of the 36 fatal cases, 13 died within the first week and a total of 20 during the first month following operation. He said we were justified in combining the mortality, unimproved and rendered worse ratios, and thereby estimating that 65.80 per cent. of cases operated on in the various forms of Bright's disease failed to be favorably influenced. On grounds furnished by statistics and considerations, the entire class of chronic interstitial nephritis was not adapted for surgical treatment. The only exception to this rule was the comparatively rare circumstance of an acute nephritis engrafted upon a chronic interstitial lesion, in which event the acute inflammatory attack might introduce the necessary element of intracapsular tension. The question of the admissibility of operation in cases of advanced chronic interstitial nephritis was answered by statistics. The mortality (76 per cent.) was almost a prohibitive one, and the chances of prolongation of life much less promising than those which medical treatment held out. Experience to date would seem to indicate that cases of chronic parenchymatous nephritis in young subjects and especially those cases following acute infective nephritis, offered the most favorable material for operation. A study of the statistics of operations in parenchymatous nephritis indicated that a competent heart was the most important consideration influencing the decision to operate.

Dr. Elliott closed by emphasizing the following points: (1) Chronic Bright's disease, in its development constitutes a diseased condition of the entire system. (2) It is a disease of very gradual development, and in the great majority of cases, has existed for months and years before the patient comes under observation. (3) It is produced by a chronic toxemia, either systematic or infective in origin, which produces coincidently as a result, widespread arterial and cardiac degenerative changes, which, being once established, are permanent, and which in their development eventually constitute the most threatening element of the disease. (4) General edema or anasarca in chronic renal disease is in many instances in great measure a cardiac dropsy brought about by advancing myocardial degeneration. It is occasionally so in chronic parenchymatous nephritis, and almost invariably so in chronic interstitial nephritis. (5) It may be stated that in like manner, developing anuria and uremia in chronic nephritis, may be largely cardiac in production, the functional inadequacy of the kidneys having its inception in the fall of blood pressure, incident to circulatory failure. (6) In the later stages of chronic nephritis of whatever character, the case is apt to take on these cardiac aspects which virtually convert the therapeutic problem into a question of sustaining a failing heart. (7) Albuminuric retinitis must be looked upon as one of the terminal symptoms of chronic nephritis. The concordance of opinion places a limit of two years upon the prognosis

after the development of this complication. The statistics of operated cases gathered by Suker, show that in place of prolonging this limit of expectancy, operation has a decidedly contrary effect. (8) It is to be borne in mind that chronic nephritis is a disease of slow and spasmodic development. It is well to realize its exacerbations and remissions, so as to avoid the error of mistaking remissions for cures. (9) The mere fact that the general condition of the patient improves somewhat after decapsulation does not establish the validity of the operation, for hygiene and rest will do the same for the patient to a remarkable degree in many cases. As the factors of hygiene and rest are invariably associated with the surgical procedure, it is possible that the resulting benefit may, to some extent, accrue from those sources. (10) The results of experimentation demonstrate that within a period of three and one-half months after decapsulation a new, and in most cases, a tougher fibrous envelope, has taken the place of the original capsule. This fact may account for the many relapses and deaths after that period in operated cases, and in chronic cases, at least, it narrows the prospect of improvement to a period of months.

A Consideration of the Surgical Treatment of Chronic Bright's Disease from an Ophthalmic Standpoint.—Dr. George F. Suker followed with a paper on this subject.

After presenting and analyzing the statistics which the author had collected from the literature, he summarized as follows: (1) As at least 25 per cent. of all grades and varieties of chronic Bright's disease present evidences of retinal or other fundus complications; and (2) as these fundus complications are usually of the degenerative inflammatory type, attended by like changes in the kidney; and (3) as the cardiovascular system is or shortly will be seriously involved; and (4) as such changes may develop in the fundus without any subjective symptoms on the part of the patient; and (5) as these retinal complications are indicative proof of a general systemic circulating toxin; and (6) as the death rate of this class of patients under medical treatment (hospital and private practice) is about 75 per cent. for the first year, and, at least 85 per cent. for the second year, scarcely any surviving four years, and practically 100 per cent. when operated upon; and (7) as these fundus findings are of paramount prognostic import in an inverse proportion to the age of the patient; and (8) as the medical aspect of this question as presented this evening by Dr. Elliott offers as good, if not better, results than the decapsulation in like cases; therefore, this climacteric array of positive clinical data, which is so palpably available, should not be disregarded on the part of the surgeon in endeavoring to establish the validity of this operation under discussion. Especially so when it can be said that in this class of cases some verily died because of the operaton and others in spite of it, and all fell within the pale of the classic two-year limit, and a larger share died within six months.

Finally, the writer has reasons to believe from the facts above mentioned, that he has conclusively proven decapsulation of the kidney for chronic Bright's disease to be absolutely contraindicated whenever such patients have a retinitis or a neuroretinitis albuminurica, with or without retinal hemorrhages.

Decapsulation of the Kidney for Bright's Disease.—Dr. E. Wyllys Andrews reported four cases of this operation. The first was a man, thirty-two years of age, who had had chronic interstitial nephritis for some years. Double decapsulation was performed, following which there was decided improvement in the total amount of urine passed, as well as solids, and for a period of three weeks thereafter the urea exceeded one per cent. and remained between one to two per cent., while the number of casts was about the same. There was a small amount of albumin in the urine. The subsequent history showed a reduction in the amount of urea again. The patient was watched carefully, and at the end of nearly eighteen months after decapsulation there was very little change for the better, nor yet was the patient worse. In the second case the man had been six months before, and six or eight months after, decapsulation, constantly on the strictest diet, and while he reported himself robust, the urinary findings were about the same as before the operation. The third case was a child nine years of age, whose kidneys were decapsulated under spinal anesthesia. The immediate result of the operation was favorable; but later the patient was as bad as before decapsulation. The fourth case was one of intermittent hydronephrosis and nephritis, and was operated on two months ago. There was relief from all of the symptoms by a combined nephropexy and complete decortication of one kidney, but he thought the nephropexy brought about the relief rather than the decortication.

Dr. A. J. Ochsner said we must look upon cases of nephritis as forming two distinct classes. In the one class we had healthy kidneys, one of which had been injured mechanically, and this injury having been corrected by fixation and decapsulation, the kidney itself contained the elements which were necessary for its recovery. This class was discussed by Edebohls in his first paper. In the other class, with systemic causes, the conditions were different. Tension might depend upon edema of the kidney. It was increased in these advanced cases by the edematous condition of the organ itself. After relieving tension there was a flow of edematous fluid the same as was found in cutting through the remaining edematous tissues. Having relieved edema, it was easy to imagine that the kidney tissues would be relieved of a certain burden, and the tissues which are practically inactive before became active again. But these kidneys did not possess the elements necessary for recovery ordinarily. As regards patients suffering from advanced nephritis he had operated on seven cases which seemed hopeless. All had died with the exception of two. One of them, the last one operated upon, was a man fifty-one years of age, an alcoholic, with marked edema, patient having all the symptoms of advanced interstitial nephritis. While he was still alive, he thought he would soon die. One case corresponded closely to the one narrated by Dr. McArthur. The patient was thirty-six years of age. He was operated upon June, 1903, and at the present time is well. Of the others, five out of seven had died, one of them within two weeks after operation. One improved materially after operation upon one kidney, but died within a week or ten days from acute uremia. Another patient lived for a few months, and then died from uremia. Two were alive, one of them having been operated upon only a few weeks ago. He said sufficient observations had now been made to justify the profession in accepting the conclusions drawn by Dr. Elliott.

Chronic Nephritis.—Dr. L. L. McArthur reported this case, in which he resorted to double decapsulation of the kidneys. Recovery from the operations was uneventful. The final conclusions applying to this case were (1) general condition much improved since operative interference. The element of time and two periods of absolute rest in bed for two weeks each were considered here as possible causative factors, while, on the other hand, be it noted, the patient for over a year before operations was under excellent medical care and given full benefit of diet, hygiene and change of climate.

(2) Distinct improvement in the quantity and quality of the urine secreted from the kidney first operated upon as compared with the unoperated kidney. (3) Improvement in quality and quantity of urine from both kidneys since the operations.

Dr. Alexander Hugh Ferguson said that surgeons should study their cases more carefully and find out what cases were suitable for this operation and those which were not. With an experience comprising over 20 operative cases, he put down the indications for surgical intervention in Bright's disease as follows: (1) He would decapsulate all cases of tender and floating kidneys, and suspend the kidney. He had made inquiries of 13 patients who had been operated upon for kidney trouble, and of this number all but three had been decapsulated, pointing out the fact that the kidney, after it had lost its mobility and interfered with the circulation, produced a low form of renal inflammation which under the microscope proved to be nephritis. (2) He had previously refused to operate upon cases of floating kidneys because there were marked evidences of Bright's disease, but now he considered it an indication for decapsulation. (3) Decapsulation of the kidney was indicated in nephritis itself. He detailed several cases, and expressed himself as believing that there was a legitimate field for renal decapsulation.

Dr. Emil Ries narrated an interesting case of hematuria in which he resorted to decapsulation. At a subsequent operation it became necessary to remove the kidney. The newly formed fibrous capsule along the kidney was about as thick as one's little finger. From the kidney removed over 600 sections were made. He had stained and examined every one of these sections, and among them there was but one anastomosis, and this was near a strip of connective tissue which followed the path made by him in the first operation with his finger, which he inserted into the pelvis of the kidney. Even this was not a direct anastomosis of kidney tissue, but of scar tissue to scar tissue, which was one of the smaller vessels in the capsule. The 600 sections were taken from numerous parts of the kidney. This proved conclusively that the theory of success of this operation (decapsulation), that it might be due to anastomoses forming, was incorrect. After mentioning five cases in which he had resorted to decapsulation of the kidney, he said he was skeptical as to the ultimate results of this operation.

Dr. R. B. Preble said his attention was first called to this subject by a report of two cases which Dr. Ferguson presented before the Chicago Academy of Medicine. At that time he objected on the ground that the cases were reported as symptomatically cured of Bright's disease. The expression symptomatically cured carried with it two implications: (1) The symptoms were there and were the result of the condition; (2) the symptoms disappeared after the operation. It also carried the further implication that the fundamental process which underlay the symptoms was not altered by decapsulation of the kidneys. The symptoms were merely relieved by it. The first case, as he recalled, reported was diagnosed clinically as probably a stone in the kidney, on account of pain in the back. The patient was operated upon; no stone was found; a portion of the kidney was removed, examined microscopically, and showed the microscopic appearance of chronic nephritis. The second case was a patient, who had had, at irregular intervals, elevation of temperature, which was interpreted as being due to infected kidney. Patient was operated on, and no pus was found. A section of the kidney was removed, and the same condition found as in case one. Dr. Preble pointed out in a very forcible manner that pain in the back was not a symptom of chronic Bright's disease, nor was elevation of temperature. These two cases, he said, formed the starting point that decapsulation had relieved these two patients of symptoms which were due to chronic Bright's disease. He said throughout the literature the word nephritis and chronic Bright's disease were used interchangeably. They were not identical terms. The difference between the two was clearly pointed out.

Dr. Arthur Dean Bevan, after reviewing Edebohls' first papers on the subject and pointing out how he had undertaken the operation of renal decapsulation, said he did not think the operation could be said to be the surgical treatment of Bright's disease, because, as a matter of fact, the great majority of surgeons throughout the United States and of the world had never accepted the operation as being a logical procedure. He ventured to say that nine-tenths of the surgeons, who were members of the American Surgical Association, had not accepted renal decapsulation as a logical operative procedure. While he thought credit should be given to Ferguson, Edebohls, and others for working out the problem, the time had come when the profession could safely say that stripping of the capsule as a treatment for Bright's disease was a complete failure, and should receive the stamp of disapproval of scientific men. Out of this work there had come some good, because it emphasized the importance of a class of cases in which another operation was of value, namely in cases of anuria, of essential kidney hematuria, in chronic pyelitis, with some nephritis, draining the kidney by a rapid nephrotomy was of a distinct value. It had effected a great many cures, and would accomplish more.

Dr. Randolph Brunson reported the case of a prominent physician, who presented all the classical symptoms of chronic Bright's disease. Ophthalmoscopic examination revealed typical albuminuric retinitis. After the patient had been treated for eight or ten months without any material improvement in his condition, renal decapsulation was advised as a last resort, reluctantly consented to by the patient, and double decapsulation was made. The patient fully recovered from the effects of the operation, but finally died of Bright's disease.

Dr. Joseph L. Miller said that any one who studied the statistics of Edebohls with a view to obtaining information as to the value of renal decapsulation immediately met with difficulty. The analyses and diagnoses were too indefinite to draw any conclusions as to the value of this operation in cases of nephritis. The profession needed a few cases, carefully studied before and after operation, to settle the question of the value of the procedure.

Dr. Gustav Kolischer thought Drs. Suker and Elliott had struck the keynote, that the value of renal decapsulation was not well established. It was very essential to make diagnoses based upon proper conceptions of pathology. The idea of suggesting decapsulation in a case of floating and tender kidney, or of excising a portion of the kidney, when there were no indications of nephritis, was based upon a wrong conception of the principles of inflammation, especially of renal tissue.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON ORTHOPEDIC SURGERY.

Stated Meeting, held January 15, 1904.

The President, Homer Gibney, M.D., in the Chair.

Osteitis of the Left Hip and of Left Fourth Metacarpal Bone.—Dr. W. R. Townsend presented this case. The patient was a boy who was first seen on December 19, 1902, at the Hospital for Ruptured and Crippled. The hip has been under treatment ever since

and is getting along nicely. One year ago a swelling appeared on the hand, disappearing after rest. No syphilitic history can be made out. Within the last few weeks the swelling has returned. An X-ray picture was taken three weeks ago, showing that the entire fourth metacarpal bone is involved, and that the disease is confined to that bone. In such a case the entire bone should be removed to prevent spreading of the disease rather than to wait and let it progress and extend to the other bones of the hand.

Typhoid Spine.—Dr. Townsend also presented this case. The patient, a boy aged fourteen years, was seen at the Ruptured and Crippled Hospital, November 23, 1903. Eight weeks prior to that time he had typhoid fever which lasted four weeks. At the end of the typhoid fever he was in fair physical condition. One week after the typhoid he developed pain and stiffness in the back which increased until when he came to the hospital he was bent over very much, suggesting a case of Pott's disease. The pain was not localized but extended up and down the spine. He had no pains in any other region. The patient's physical condition has materially improved since he began wearing a plaster jacket and he now feels so well he is anxious to get it off. Dr. Townsend said he would like to present very briefly the history of two other cases of typhoid spine which he had treated within the last year. The first patient was a girl of eleven years who, after typhoid, began to complain of pain in the spine, especially about the lumbar region. No kyphosis, no deformity whatever, but the entire spine was very stiff. The girl was markedly neurotic. The question was whether it was a typhoid spine or a neurosis. The previous history of typhoid inclined the speaker to that diagnosis—of the type to which Osler refers—a neurosis. Dr. V. P. Gibney, who also saw the case, agreed in the diagnosis. Under a brace she made a good recovery. The second patient was a man. Ten days after the typhoid he was in the Adirondacks recuperating, when he was seized with severe pain in the spine. His pain was so severe, he was moved with the greatest difficulty. Even the attempt to move him from side to side caused the most excruciating pain. He was not neurotic. His face indicated that he suffered intensely. No one vertebra was more prominent than the others; no one spot more painful than another. He complained of pains over the entire lumbar region. A brace was applied, but was kept on only a few moments, as it seemed to increase the discomfort produced by lying on his back. Codeine was given in the hope of quieting the pain and finally hypodermics of morphine were resorted to, and after a week the brace was re-applied and kept on. There was persistent pain over the pelvis on both sides between the hip-joint and the anterior superior spines. Nothing was ever found to account for it. These pains continued for three weeks or more, and persisted after pain in the spine had ceased. No disease of the hip-joint was ever made out, no abscess, neuritis, or anything except that he insisted on the fact that he had intense pain there. Under the use of the brace and rest in bed for six weeks, he entirely recovered. The man now walks about the house, but is very thin and feeble. Does not require a cane or any assistance in walking.

Dr. T. Halsted Myers, in the discussion, said he thought the typhoid spine case showed two characteristic points:—The extreme pain in these cases: He had, this fall, been obliged to chloroform a patient in order to put on a plaster jacket, and chloroform him again to take it off and replace the plaster. The second point was, the prompt recovery, often in one or two months.

Dr. Homer Gibney said he had seen a recent case of typhoid spine in which all the symptoms were referable to the cervical spine. Dr. Whitman had applied a short jacket with jury mast or chin support which elevated the chin, and that this case made an uninterrupted recovery. He had seen a number of cases in which the pain had been intense respond rapidly to cautery and fixation.

Dr. R. Sayre said he had not seen many cases of typhoid spine, but had seen a certain number of them, and had at present a case of scarlatinal spine under observation. The patient, a boy, had been well until he had a severe attack of scarlet fever some three or four years ago. Following that he had nephritis which lasted for a number of months. Then he had what was supposed to be rheumatism in various parts of the body, finally located in the back. When seen by Dr. Sayre, it was discovered that he had large intra-abdominal abscesses and a slight kyphosis. All of these apparently dated from his scarlet fever. Abscesses subsequently opened in one iliac fossa and in the opposite thigh.

Congenital Deformity of the Neck Resembling Torticollis.—Dr. Sayre presented this case. The patient had a certain amount of pain in her neck which ran down toward her arms. Her mother thought deformity had increased somewhat. Examination of the case was extremely difficult by X-ray, as the ear was drawn so close to the shoulder as to make it hard to insert the plate. The plates made were not very satisfactory. When the child's head was well bent to one side, one felt some very hard, solid substance down in the neck, which is either a very long transverse process or else possibly some supernumerary ribs. The distance was very much shorter than it should be between the ears and neck, and the X-ray showed that the upper vertebræ had coalesced.

Dr. J. R. Hunt said he would like to ask how Dr. Sayre excluded an extreme degree of congenital torticollis. The right sternocleidomastoid muscle was practically atrophied, representing only a tendinous cord. The other muscles of the right cervical region were also tense. There was an extreme asymmetry of the face, so often an accompaniment of this condition. Curvature of the spine and rotation of the cervical vertebra would be a natural and inevitable result. Furthermore the skiagrams demonstrated the absence of cervical ribs. The long prominences palpable in the side of the neck would be sufficiently accounted for by subluxation and rotation of the vertebræ, allowing an abnormal projection of the transverse processes.

Dr. R. Whitman said that he had seen a case recently very similar to that shown by Dr. Sayre, particularly the same short thick neck with the growth of hair in the median line; the torticollis was less marked. He would suggest as an explanation that the malformation was an incomplete cervical spina bifida, the vertebra being expanded laterally as well as otherwise destroyed. The torticollis was of course an incidental effect of the underlying malformation.

Dr. Sayre said when he first glanced at the patient, he thought it was an ordinary case of torticollis. As soon as he felt the neck, he saw it was not the usual kind of torticollis. There was atrophy of the muscles on one side of the neck and an unilateral lack of development of the face it is true, but in addition to these features, there were bony growths not found in ordinary torticollis. There was great distortion of the upper ribs not found in such cases and there was more rigidity in the neck than that due to shortened muscles—rigidity due to improper movement of the cervical vertebræ. Apparently some of the upper vertebræ have

coalesced. They do not present the ordinary picture of cervical vertebræ. It was an extremely difficult case to examine, on account of the short distance between the ear and shoulder. The child's condition has improved during the past month. It is not practicable to do anything more at present than to give a suspension apparatus and have the child placed in a chair with the head stretched out a reasonable time each day. The child could not be suspended long at a time. It had been suspended a moderate amount, with the neck stretched out, to see if a better skiagraph could not be made after the yielding of the muscles. On a closer view of the anteroposterior skiagraph it looks as if the spinous processes possibly had not coalesced, simply had that appearance from the hunching up of the angle of the ribs on the posterior side. The spinous processes may have been twisted and that might be one of the hard things felt on the side. As to the mane on the back; that is often seen in spina bifida occulta, as is mentioned by the German and French authors. He had seen it but seldom. A boy with lateral curvature, under observation at present, has an extremely heavy mane.

Syphilitic Joint Disease.—Dr. Myers presented this case. H. S., fourteen years old. No family history of tuberculosis or syphilis obtainable. Child had an ozena for four years; fistulæ leading to carious bone in nose two years, and in left elbow one and one-half years. Later, an abscess appeared in parotid region and seven months ago without injury, the left knee became swollen. There was some heat, a little pain at night only, no redness. On admission to St. Luke's Hospital, December 4, 1903, the circumference of the left knee was two inches larger than the right; fluid in the joint and induration about it, with noticeable enlargement of tibial shaft, though it was one-eighth inch short. Marked muscular atrophy of thigh. Flexion from 175 to 80 degrees. No spasm. No pain. Skiagraph showed marked enlargement of tibia and radius and lower end of the humerus, all on left side. A marked keratitis was present and thought by Dr. Cutler to be of specific origin. Specific treatment was instituted at once and the change in the child's condition is remarkable. The swelling of the knee has almost entirely subsided, and the motion increased proportionately. The sinuses in nose and elbow are closing fast and the corneal opacities are less. A tuberculin test January 13, gave a slight transitory reaction which was not considered of diagnostic value.

Pott's Disease.—Dr. H. L. Taylor presented a case of this disorder in which the principal interest consisted in comparing the man's present condition with his condition about five years ago when shown to this section. The man had suffered at that time for several months from excruciating pain in the lower part of the spine and flanks; the pain was so severe he could scarcely move, there was stiffness and very marked cachexia, but no kyphosis. A jacket was applied once or twice but he would not keep it on, saying he could not stand it. It was thought at the time that the man had carcinoma of the spine. He had been admitted to the hospital, but had only remained a short time, and had not returned for treatment. After an absence of five years, the patient appears with a well-developed kyphosis, much bowed over, but in fair health and able to get about. He is satisfied with his state and will wear no brace or jacket, but the disease, which is undoubtedly tuberculosis of the spine, is still progressing. He has a rupture and also a small sinus connected with the sternum which came soon after the spinal symptoms. It is a case of tuberculosis of the lower dorsal and lumbar spine, with unusually severe and long-continued pains, and is shown as being of interest in connection with the early diagnosis.

Dr. Homer Gibney said that comparatively few cases of such late development of Pott's disease were seen. He thought the man needed support around the abdominal and upper thoracic region. Cases he had seen recently were made comfortable by means of a spinal support made of flexible steel with pelvic and abdominal belt and counter shoulder straps. It would be very difficult to put an apparatus on the man on account of the disease, which was active, as evidenced by the sinuses leading up to the ribs and sternum on the left side.

Dr. Sayre said that Dr. Taylor had mentioned that the man objected to various kinds of support, refusing to have it applied. In such cases Dr. Sayre had found an appliance of which Dr. Schapps had spoken some years ago—a pelvic belt with two uprights in front, attached to a small plate which rested against the sternum—a prop for the front of the body. A man on crutches leaned against such a brace, much as our great grandmothers leaned against what they called a busk put in front of the corset.

Cervicodorsal Pott's Disease with the Application of a Gas-pipe Frame.—Dr. Homer Gibney presented this case. Dr. Downs had examined the case at the New York Hospital Dispensary. The child was thought to have some bulbar symptoms. Soon after birth could not use left arm and hand (probably slight birth paralysis) which rapidly improved under massage and manipulation. Kyphosis not present at this time. Upon examination of the case he found all of the neurological symptoms due to the development of the disease at the cervicodorsal junction. He thought the method of treatment would be of interest, and he would apply the apparatus, which is simply a rectangular gas-pipe frame to which the child is fastened by an abdominal apron. The angle at which one wishes to place the child is then adjusted to suit the conditions. The clothing is made to button in the back over the frame. The child and frame may be placed in a convenient chair in the sunlight by the window and the patient is soon transformed from an irritable, suffering child to at least a most comfortable position in which the deformity in many cases diminishes noticeably.

Snapping Knee.—Dr. Homer Gibney also presented this case. The patient had first applied for relief for a weak ankle resulting from an old fracture on the left side. He had also complained of some pain in the right knee. On examination the left foot was found in slight valgus and the evidences of an old fracture—a very good result. The knee, on right side, when extended forcibly, made a sharp noise, or snapped. The patient seemed rather proud of this accomplishment and said, after sitting long in one position, it gave him relief to snap his knee. This slipping of the quadriceps extensor tendon is to be considered infrequent in adults.

Dr. Taylor said he wished to say a word or two in commendation of the frame shown, which was not used as much as it should be, though far superior for certain cases to jackets, braces and plaster beds. Dr. Whitman had narrowed the frame, making it very light, so that it can be modeled over the edge of a table to the form required, and with the addition of the pads on either side of the spinous processes, it is an exceedingly efficient and useful appliance, worthy of more extended use than it has received, especially for children of two years or under, who have no hips to support a jacket or brace, and who are much better off lying down than walking about.

JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

Stated Meeting, held February 1, 1904.

Scleroderma.—Dr. E. K. Cullen showed this case; the patient was a girl aged fourteen years. Her first complaint had been burning of the back of the left shoulder. Two years ago she had struck her shoulder, but without bruising it, and ever since has had attacks of pain after slight blows in this region. In April, 1903, a whitish patch with a red border appeared over the left scapula and in August this became a patch of typical scleroderma. Its border was formed by a plexus of vessels. The thyroid was palpable. The patient was put on thyroid extract and the skin has been getting softer ever since; the change being noticed chiefly in the center of the lesion. The pain, however, has been getting more severe and less drawing and burning in character. Sensation and blood are both normal. The thyroid treatment has been kept up continuously since the onset with the exception of two weeks, when it was stopped on account of pain for which acetanilid and salol were given without success. The patient's health has been perfect, there have been no unfavorable symptoms and the scleroderma is now gone. The etiology of scleroderma is unknown, but it affects chiefly women and there is often neurotic history. The circumscribed form affects chiefly the skin and leaves muscular action unimpaired. The prognosis is more favorable than in the acute form. Thyroid and suprarenal extracts, together with baths and electrolysis, have been the chief means of treatment.

Dr. Osler said that this case was unusual in its favorable course. Since 1892 19 cases of scleroderma have occurred in the Johns Hopkins Hospital, only two of which were local. The diffuse form is the most appalling disease we know, but between the two forms there is a middle group much like the disease recently described by Gowers as local panatrophy. Two of the diffuse cases were arrested on thyroid treatment.

Myelogenous Leucemia.—Dr. Campbell reported this case, in which the spleen and the leucocytes returned to normal. The patient first complained of pain below the left rib and a good deal of weakness. Her blood count showed anemia with a leucocytosis of 350,000; many myelocytes being present. She was put on large doses of Fowler's solution and in three weeks the leucocytes had fallen to 4,000. The blood picture showed many normoblasts, but the presence of myelocytes and the clinical symptoms all pointed to leucemia. The condition improved remarkably under treatment, and on May 4, 1903, the spleen (which had originally reached the umbilicus), was just palpable, and the blood picture was practically normal. In October the patient's weight had increased much, her color was good, her spleen could not be felt, but there was some suggestion of arsenical neuritis. A recent blood count showed no myelocytes. There are 4 cases in the literature showing improvement under treatment, with various measures, and it is a question whether this case can be considered cured by the arsenic, but there is no doubt about her wonderful improvement. Dr. Osler said that three cases of this disease have occurred in the Johns Hopkins Hospital, in which the leucemia disappeared under treatment, but in only one of these did the spleen become inpalpable.

Loco Disease.—Dr. Marshall read a paper on the loco disease as seen in the West. The condition affects chiefly horses and shows itself as attacks like acute mania. A horse previously gentle will suddenly, without apparent cause, become quite unmanageable and do odd things. The disease is chronic, the animal emaciates and usually dies from cachexia. For sheep, cows and other animals the symptoms are less constant and show themselves in weakness, tremor and stiffness of gait. The disease was first described in Mexico and a little later in Texas and California. It occurs from Texas to Montana, and from California to Kansas. The cowboys claim that the disease is caused by a weed of the wild pea family. It occurs usually in young animals. Dr. Marshall autopsied 15 sheep affected with a severe form of this disease. In all but two of them he found intestinal parasites, and his work led him to believe that these parasites may have something to do with the cause of the disease, particularly as the condition shows a seasonal variation very similar to that observed in other parasitic diseases. The loco disease is therefore probably not due at all to eating the loco weed, but is a name under which many diseases are included, some, if not all, of them, probably parasitic. The ranchers experience great loss from this condition, and the question as to the nature of the disease is an important economical problem.

Pneumonia in Diabetes.—Dr. Futcher reviewed this subject, it being suggested by a recent case in which, with the usual symptoms of diabetes, there was an acute and fatal pneumonia with all the physical signs, but witnout cough, expectoration or chill. Out of 134 cases of diabetes at the Johns Hopkins Hospital three have had lobar pneumonia—all fatal. The disease is, therefore, comparatively rare, but it is very acute and fatal and often insidious. Dr. Smith reported a case of diabetes with coma in which pneumonia developed, and though the case was regarded as hopeless, the patient got perfectly well.

BOOK REVIEWS.

AMERICAN TEXT-BOOK OF SURGERY. Edited by Drs. W. W. KEEN and J. W. WIGHT. Fourth edition, 8vo, 1363 pages. Illustrated. W. B. Saunders & Co., Philadelphia, New York and London.

THIS is the fourth edition of this work and we are told that at least 40,000 copies have been disposed of. We can readily account for this popularity, as the work comprises so many features of practical value. We can only add to our previous encomiums of this work that the present edition has been brought thoroughly up to date by the addition of much new matter particularly bearing on surgery of the nervous system, the spinal cord, on surgical bacteriology, tumors, and orthopedic work.

Six new chapters appear in this edition. Military Surgery is contributed by Surgeon-General Riley, Naval Surgery by Surgeon-General Rixey. Dr. Chas. F. Kieffer contributes a chapter on Tropical Surgery; Drs. Cabot and Stone write chapters on Examination of Blood in Surgery, and Immunity respectively.

The work is thoroughly comprehensive and interesting, beautifully illustrated and from all points of view is a model volume.

TEXT-BOOK OF DISEASES OF THE EYE FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By HOWARD F. HANSELL, A.M., M.D., and WILLIAM M. SWEET, M.D., with chapters by Christian R. Holmes, M.D., Casey A. Wood, M.D., D.C.L., and Wendell Reber, M.D. P. Blakiston's Son & Co., Philadelphia.

THIS book is admirable in many respects, and may be recommended as a useful source of information for students and those beginning the practice of ophthalmology, and for general practitioners who have not the time to consult the larger treatises; it is distinctly a happy medium.

The authors have devoted less space than is usual to refraction and to the rarer external diseases and conditions in general which are not amenable to treatment, and the practical utility of the book is thereby enhanced.

The authors acknowledge their indebtedness to other standard works on the eye, and realizing that no one can be best in all subjects, they have shared their task with others. The chapters on diseases of the lacrimal apparatus and the ocular symptoms in general diseases, especially prove the wisdom of this subdivision. The book is well indexed, and the publishers' work is admirable, the illustrations being far superior to those generally seen. The only exception that may be taken to this statement is that the binding offers a very small promise of durability.

WATHEN'S EPITOME OF HISTOLOGY. A Manual for Students and Physicians. By JOHN R. WATHEN, A.M., M.D., Professor of Surgery, etc., formerly Professor of Histology and Pathology, Kentucky School of Medicine, Louisville, Ky. 12mo, 220 pages, 114 illustrations. Lea Brothers & Co., Philadelphia and New York.

THE author of this little volume has given us something new in the way of compends, in that he has departed from the catechetical method and has made his book a readable one—an uncommon quality, as quiz compends go. The treatment of the subject is approached both from the embryological and pathological side, thereby adding to its comprehensiveness and interest. There is a logical arrangement of short chapters, with questions at the end of each, printed in large, clear type, with a judicious use of black letter headings and italics. When possible, cuts of gross specimens show where the microscopical sections come from, and the book lies open flat upon the knee or table—two very noteworthy points. The section on bone development, the students' bugbear, is especially clear; and the homologies of male and female genitals are shown at a glance. One might wish that the fiber tracts in brain and cord were more fully described, and that the Graafian follicles were traced in their development; but aside from these the book is one of which any author might well feel proud. The student who reads this manual carefully and thoughtfully need have no fear of a conditional examination in histology.

THE STORY OF NEW ZEALAND. A History of New Zealand from the Earliest Times to the Present, with Special Reference to the Political, Industrial and Social Development of the Island's Commonwealth, including Industrial Evolution dating from 1870, the Political Revolution of 1890, the Cause and Consequences, and the General Movement of Events Throughout the Four Periods of New Zealand History. By Professor FRANK PARSONS, Ph.D., of the American Academy of Political and Social Science; Director Department of History in the Bureau of Economic Research, Washington, D. C., etc.

THIS is one of the volumes of the Equity Series edited and published by Dr. C. F. Taylor, the editor of the *Medical World* of Philadelphia. Among other volumes of the series are "The City for the People," "Direct Legislation," "The Telegraph Monopoly," "Rational Money and the Bondage of Cities," all by Professor Parsons, and "The Organization and Control of Industrial Corporations," by Frank Horack. All of them contain valuable information on subjects that are of present-day political interest. This present volume is a résumé of what has been done in New Zealand by legislation in order to make life more livable for all classes.

There are many chapters in it of special interest to medical men. Those on the Factory Laws, on Old Age Pensions, on the Labor Problem, and Certain Phases of Labor Legislation contain an immense amount of suggestive material which is not merely theory, but is the result of actual experimental observation in New Zealand.

Most people know that New Zealand has attempted to accomplish by means of legislation many reforms that are usually considered ideal rather than practical. Somewhat like the use of small animals in the laboratory for experimental demonstrations, it seems to be not inappropriate that little New Zealand should thus have offered herself as an example of how certain supposedly Utopian theories work out in practice. It must be said that many of the experiments have given successful results where this might not have been expected. The whole character of the legislative movement in New Zealand, however, will have to work itself out further before the decision can be read. Meantime Professor Parsons' book gives an excellent idea of what has been attempted with perhaps a little too favorable recognition of the results, for as yet time is needed properly to appreciate what the ultimate consequences of the movement in New Zealand will be.

BOOKS RECEIVED.

The MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

THE STORY OF NEW ZEALAND. By Dr. Frank Parsons. 8vo, 840 pages. Illustrated. C. F. Taylor, Philadelphia.

DISEASES OF THE EYE. By Dr. L. Webster Fox. 8vo, 584 pages. Illustrated. D. Appleton & Co., New York and London

SOCIAL DISEASES AND MARRIAGE. By Dr. Prince A. Morrow. 8vo, 390 pages. Lea Brothers & Co., New York and Philadelphia.

TRANSACTIONS OF THE AMERICAN GYNECOLOGICAL SOCIETY. Volume 28. 8vo, 343 pages. Illustrated. W. J. Dornan, Philadelphia.

BACTERIOLOGY OF MILK. By Drs. H. Swithinbank and Geo. Newman. 8vo, 605 pages. Illustrated. E. P. Dutton & Co., New York.

TRANSACTIONS OF THE NATIONAL ASSOCIATION OF UNITED STATES PENSION EXAMINING SURGEONS. Vol. 1. 8vo, 215 pages. Rochester, N. Y.

TREATMENT OF NEURASTHENIA. By Drs. A. Proust and G. Ballet. Translated by Dr. P. C. Smith. 12mo, 213 pages. E. R. Pelton Co., New York.

THE LYMPHATICS. By Drs. G. Delemare, Poirier and B. Cuneo. Translated by Dr. Cecil H. Leaf. 301 pages. Illustrated. W. T. Keener & Co., Chicago.

A MANUAL OF OPERATIVE SURGERY. By Sir Frederick Treves. Volume 2. 8vo, 822 pages. Illustrated. Lea Brothers & Co., New York and Philadelphia.

MAMMALIAN ANATOMY, WITH ESPECIAL REFERENCE TO THE CAT. By Dr. A. Davison. 8vo, 250 pages. Illustrated. P. Blakiston's Son & Co., Philadelphia.

SPECIAL REPORT ON DISEASES OF THE HORSE. United States Department of Agriculture Reports. Revised edition. Government Printing Office, Washington, D. C.

THE FOUR EPOCHS IN A WOMAN'S LIFE. By Dr. A. L. Galbraith. Second edition. 8vo, 244 pages. W. B. Saunders & Co., New York, Philadelphia and London.